ETC.

A REVIEW OF GENERAL SEMANTICS

Summer, 1949

an international quarterly of discussion, research, and theoretical inquiry in Non-Aristotelian systems and General Semantics

In this issue:

LOREN R. BORLAND points out the semantic confusion in arguments about National Health Insurance.

GEORGE A. LUNDBERG does the same in International Relations.

General Semantics as a Counselor's Tool is discussed by HENRY CLAY LINDGREN.

Further analysis of Horace Bushnell's views is offered by SHERMAN PAUL.

Charles Biederman's book on Art reviewed by MARTIN JAMES.

etc. etc.

Volume 6, Number 4

CONTENTS:

VOLUME VI, NUMBER 4, SUMMER, 1949

THE NATIONAL HEALTH INSURANCE BOGEY — Loren R. Borland — 213

BIOPHYSICS, LINGUISTICS, AND THE UNITY OF SCIENCE — Charles F. Hockett — 218

SEMANTICS IN INTERNATIONAL RELATIONS — George A. Lundberg — 233

GENERAL SEMANTICS:
A TOOL FOR THE COUNSELOR — Henry Clay Lindgren — 238

RICHARD BAXTER: DIRECTIONS AGAINST INTOLERANCE — Mason G. Daly — 245

DISCUSSION:
MEDICAL PSYCHOTHERAPY AND GENERAL SEMANTICS — Louis Paul — 251
HORACE BUSHNELL RECONSIDERED — Sherman Paul — 255
LOGICAL IMPOSSIBILITY? — Edward MacNeal — 259

BOOK REVIEWS: Earl C. Kelley, *Education for What Is Real* (Julia Siebel); Abram Kardiner, *The Psychological Frontiers of Society* (Louis Paul); Charles Biederman, *Art as the Evolution of Visual Knowledge* (Martin James); Lyman Bryson, ed., *The Communication of Ideas* (Martin Maloney); Herbert A. Simon, *The Science of Administration* (Lewis A. Dexter) — 262

NEWS AND MISCELLANY — 277

INTERNATIONAL SOCIETY FOR GENERAL SEMANTICS
LIST OF MEMBERS — 278

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A REVIEW OF GENERAL SEMANTICS

THE NATIONAL HEALTH INSURANCE BOGEY

LOREN R. BORLAND, D.D.S.

PHYSICIANS and dentists in this country are receiving a tremendous amount of literature from the organizations which are actively opposing the enactment of National Health Insurance legislation. Pamphlets, circulars, newspaper editorials and cartoons, radio speeches—in short, practically all the media we have for communication are being used to present similar material to the public at large. Many hundreds of thousands of dollars are being thrown into the fight against compulsory health insurance and the professions are soliciting their own members for contributions to this effort. Much of this material presents an authoritative appearance. It deals with a problem of real importance to every individual. It is being propagated by professional people for consumption, in part at least, *by professional people.* For these reasons it seems to present a worthwhile area for semantic analysis.

We are concerned not with the virtues or shortcomings of compulsory health insurance, but with the semantic structure of the arguments brought forth against the system. A similar study of the material presented by the proponents of compulsory health insurance might well reveal comparable errors in logic or evaluations and might be an equally worthwhile area of study. We have not attempted this, because no literature supporting the proposed system has come to our attention, while considerable quantities of material opposing it have reached us quite unsolicitedly.

From the point of view of general semantics, any argument, to be accepted as valid and meaningful, must have its basis in premises verifiable on the extensional level. From this starting point an argument may proceed to certain generalizations, which, it must be remembered, are and must remain tentative

and subject to revision. Furthermore, these generalizations should be recognized as the highly abstract products of an argument based on premises, which, while of a lower order, are themselves abstractions, and not 'reality' or 'events.' Finally the conclusions should be accepted with a full realization that the data on which the argument is based are not and cannot be complete and that the 'events' at the bottom of the structure are not static but rather are increments of a constantly changing 'process reality.'

Reversal of Order

PERHAPS the most frequently occurring evaluative error in the literature opposing compulsory health insurance is a reversal of the natural order in the process of abstracting. Many of the paper and essays opposing compulsory health insurance begin the argument with a series of conclusive generalizations for which little or no basis is given. The rest of the argument is then devoted to rather confused and highly emotional attempts to evaluate these first (very high order) generalizations. Dr. Allen O. Gruebbel, executive secretary of the Council on Dental Health of the American Dental Association, *begins* his discussion of the problem as follows:

> Since a National Health Service under government control and based on a compulsory health insurance scheme has many serious flaws and dangerous possibilities for the future, it would seem that every one, including government officials, would want the public to know the facts before such a far-reaching and serious move is attempted. The reports of some government officials and agents of some unofficial organizations have been more of the nature of propaganda literature than of objective analyses of all possibilities for improving the health of the American people. The withholding of important facts and the distortion of pertinent information obviously are premeditated and designed to hide the unfavorable aspects of the federalized health care scheme.[1]

The remainder of Dr. Gruebbel's paper is a development of an argument based essentially on these 'facts.'

The Magic of Words

ANOTHER mechanism used repeatedly in the literature opposing national health insurance is the establishing of a 'fact' simply by stating that it is so. The baldness of this tactic is occasionally camouflaged by the use of such parenthetical clinchers as 'obviously,' 'of course,' 'it is well known that.' Dr. Lon W. Morrey, editor of the *Journal of the American Dental Association,* states:

[1] Gruebbel, Allen O., 'Fact and Fallacy,' *Journal of the American Dental Association,* 38, April, 1949, Section 2, pp. 498-502.

> It [national health insurance] is not a product of those who have had life-long experience in the actual provision of dental and medical care. It is a program designed by laymen with a sharp eye on the political profit inherent in promising something for nothing.[2]

Dr. Gruebbel writes:

> The report [3] stated that national health insurance is the only practical way to supply these services to all the people, which, of course, is not true.[4]

Again:

> Advocates of national health insurance have attempted to convince the public that the scheme in no way would interfere with the practice of dentistry, medicine, or nursing. This effort to reassure the public and the professions would be commendable if it were based on fact. Actually the opposite is true.[5]

He writes further:

> There is no more justification for requiring physicians, dentists, and nurses to serve under a national socialized system than there is for requiring attorneys, bankers, or business executives to do so. . . . Compulsory health insurance under control of government would be excessively expensive and politically, sociologically, and ideologically undesirable.[6]

In many instances the 'failure' of socialized health programs in Germany, France, New Zealand, and Great Britain has been cited as 'evidence' of its inadequacy in the United States. Besides making the assumption that the failure of those programs is an established fact, this argument reveals total lack of indexing (socialized health program in New Zealand equals national health program in U.S.). Another example of this sort can be seen in the statement of Don W. Gullet, secretary of the Canadian Dental Association, who quotes Sir Lionel Whitley, president of the British Medical Association as saying:

> By looking back into history I hope I have made it abundantly clear that individualism has done so much in the past that were it extinguished either by the state or easy living, by regulated hours, or too much insist-

[2] Morrey, Lon W., Editorial, *J.A.D.A.*, 38, April, 1949, Section 2, p. 477.

[3] Bureau of Research and Statistics, Social Security Board, *Medical Care Insurance: A Social Insurance Program for Personal Health Services*, Senate Committee Print No. 5, 79th Congress, 2nd Session, Washington, U.S. Govt. Printing Office, 1946.

[4] Gruebbel, Allen O., *op. cit.*

[5] *Ibid.*

[6] *Ibid.*

> ence upon plans or planning, then medicine in the future might never reach the same heights of achievement.[7]

This represents a complete lack of temporal indexing and ignores the fact that science has passed from the stage of great individual discoveries to the era of methodical, coordinated group research as a prime source of new knowledge.

Labelling

THE USE OF labelling or the employment of smear words finds wide use on the part of those writing against national health insurance. Dr. Morrey makes liberal use of this device in his editorial comments:

> Another effort is being made to get the American Public to swallow the old but untried prescription of political medicine that has been standing murkily in the bottle for the past ten years . . . In an effort to convince the American people that it really is necessary, for their own good, to swallow this nasty stuff . . .[8]

Rep. Frederick C. Smith of Ohio said:

> I am going to start this broadcast by reading some propaganda: 'The Soviet Union is a bulwark against war and aggression. It works unceasingly for peaceful international order. It has eliminated racial prejudice. It has established free medical care, security in sickness and old age.' Screwy, isn't it? Particularly that stuff about international peace. . . .

Congressman Smith has adroitly managed to include national health in a group of policies advocated by the Soviet Union. This, 'of course,' labels all such policies 'communistic' and, therefore, 'bad.' It is interesting to note, however, that he does not stop to extoll the virtues of race prejudice even though it is condemned in this same piece of 'propaganda.' He says:

> There are at least ten communist fronts working for social insurance. Do you think they are trying to improve conditions in the United States? . . . No, the key people in these communist fronts realize that compulsory health insurance will bankrupt the United States, as it has exhausted the finances of every nation which has tried that experiment. They know disorder will follow—that we will become disunited. And they know something else—they realize that controls established under that system will be available to set up a dictatorship.[9]

Congressman Smith is saying (1) that the communists have established free medical care in the Soviet Union, (2) that free medical care leads inevitably

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[7] Gullett, D. W., 'A Lesson from Overseas,' *J.A.D.A.*, 38, April, 1949, Section 2, pp. 523-541.

[8] Morrey, L. W. Editorial, *J.A.D.A.*, 38, April, 1949, Section 2, pp. 556-558.

[9] Hon. Frederick C. Smith of Ohio and Hon. Roy O. Woodruff of Michigan in the House of Representatives, Jan. 13 and 17, 1949. U.S. Government Printing Office, Washington, 1949.

to bankruptcy, and (3) that the communists know it and are deliberately trying to bankrupt the United States by free medical care. The logical implication that the communists are trying to bankrupt the Soviet Union may not escape the reader as easily as it has evidently escaped Congressman Smith.

Ventriloquizing

WENDELL JOHNSON has used the term 'ventriloquizing' to describe 'speaking as if with the voice of another.' [10] This finds wide use in the publications and pronouncements against national health insurance. In one of his editorials, Dr. Morrey writes:

> The American Dental Association has opposed, and opposes, a system of federal compulsory health insurance because it does not represent a practical, economical, and scientific approach to the problems of dental disease. . . . The American Dental Association will oppose S. 5 and all bills which attempt to federalize the health services. It will continue to place the facts before the public. It will not stand by to see the health of the nation made the private enterprise of politicians and government planners.[11]

This tendency to personify the American Dental Association is found in much of the literature and is, as Dr. Johnson points out, utter nonsense. The *American Dental Association* can oppose nothing. The *members* of the American Dental Association can. It is worth noting, however, that *the members of the American Dental Association have never been polled to determine just what they do think about this issue.* Instead, small bodies of men within the Association have determined the policy of the Association which has then been imposed upon the members by means of 'information' campaigns such as the one under discussion. The policies of the American Dental Association are determined by the House of Delegates and the Board of Trustees. These bodies, totaling some seventy men, formulate the Association policies. These policies are then represented as the desires and attitudes of the 'American Dental Association' which is composed of some 70,000 dentists.

The whole field of legislative proposals seems to offer fertile ground for the application of the evaluative techniques of general semantics. These proposals almost inevitably set off propaganda campaigns designed to influence the individual citizen to favor or to oppose the proposed legislation. This important characteristic of such campaigns should not be lost sight of, as, in most instances, the proponents or opponents of legislation are more interested in bringing about enactment or defeat of the legislation than in providing unbiased information on the subject.

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[10] Johnson, Wendell, *People in Quandaries,* New York, Harper and Brothers, 1946, pp. 65-69.

[11] Morrey, L. W., Editorial, *J.A.D.A.,* 38, April, 1949, Section 2, pp. 556-558.

BIOPHYSICS, LINGUISTICS, AND THE UNITY OF SCIENCE[1]

CHARLES F. HOCKETT

THE purpose of this paper is to indicate certain parallels between the rôle of biophysics in biology and the function of an as yet unnamed specialty in the social sciences. If it turns out that the parallels are correctly delineated, then a clearer and deeper meaning can be ascribed to the expression *the unity of science*, which often is little more than a catch-phrase. The term 'linguistics' appears in the title, because the study of human speech has much to contribute to the 'unnamed specialty in the social sciences' referred to above — more, perhaps, than any other discipline. The nature of this contribution will be discussed in due time, but, for clarity, it is advisable to begin with a brief summary of the method and content of science; the first three sections are devoted to this.

1. *Scientific Statements*

THERE is general agreement on the conditions under which a statement is acceptable as a hypothesis capable of scientific testing, and on the nature of that testing. We require of such a statement, first, that it be phrased — directly or recursively — in operationally defined terms; and, second, that it be capable of serving as the basis of predictions. When predictions based on such a statement do not come to pass, the statement is false, and is revised or rejected. Statements which do not meet our requirements, however, are neither true nor false, but meaningless; in so far as possible, we try to exclude meaningless statements from our discussions.

We may consider, for example, the statement: 'The moon is 50,000 miles from the earth.' This is built on operationally defined terms, involving the assumptions of euclidean geometry and certain techniques of observation. It can be tested, not, it is true, with a yardstick or speedometer, but by predicting what readings certain instruments will show when certain operations are performed. Since the prediction is not verified, the statement is false.

The two requirements of operational definition and predictability are, of course, really just one requirement: predictions can be made only by specifying operations to be performed and stating what the results will be. This single requirement, with its obverse and reverse as described above, is sufficiently similar

[1] Reprinted by permission from the October 1948 issue of *The American Scientist*.

to many of our habits in everyday matters that some have been led to say 'science is organized common sense.' Like so many other well-turned and oft-repeated aphorisms, this says too much and too little: too much because what people call 'common sense' often has a high assay of meaningless and demonstrably false in it; too little because it hints at, without actually stating, the following important fact. Those engaged in any particular branch of science get much of their fundamental terminology — the 'non-technical' part — from everyday life, where words like *up, down, left, right, fast, slow, one, two, three* and the like are actually defined for us, as we grow up and learn to speak, by the operational process. Such common-vocabulary words cannot be eliminated from scientific discourse — a textbook on mathematical physics never consists *entirely* of equations — and if we remember that non-technical terms, too, are ultimately operationally defined, we shall make no such foolish attempt. On the other hand, we must not fall into the error of taking common-vocabulary words for granted. Major revolutions in science have come about when someone decided not to take some non-technical term or phrase for granted, but, instead, to examine critically its operationally-acquired meaning: witness what happened when Einstein investigated what we mean when we say 'What time is it?'

At any particular moment, the statements which pass our fundamental requirement, and which have not been proved false, constitute the working hypotheses of scientists. Within this group there is a somewhat smaller set of statements which have served as the basis for numerous predictions of a high degree of accuracy; this we may label the scientific knowledge of the moment. Between working hypotheses and scientific knowledge there is no sharp line of demarcation: a statement which up to a given time has always been involved only in predictions of a high degree of accuracy may at that time be invalidated by a new set of predictions which are not borne out. So scientific knowledge is relative, and is dated; one of the most important bits of information in any article on a scientific subject is its date of publication.

Sometimes one mentions additional criteria for the scientific acceptability of statements. There has been a hue and cry for the rejection of statements phrased teleologically. This seems hardly relevant; the terminologies of purpose, of causality, of probability, and of functional relationship are all available ways of talking about things, and we should be permitted to choose one or another of them, or invent a new one, on the basis of convenience, as long as we adhere to the fundamental requirement of operational definition and predictability. Of course, if one or another of the possible terminologies proves to be consistently confusing, in one phase of science or in all phases, then it is well that that terminology be abandoned; this may or may not be the factor responsible for the attempts to leave teleological wording behind.

It should also be obvious that only from within the framework of scientific method do we pass judgment on statements as meaningful or meaningless, as

false or (for the time) true. There are other frames of reference than the scientific, involving other definitions of 'meaningful' and 'true.' Since fruitful discussion is hardly possible unless the participants agree on a consistent usage of such terms as these, it is hard to see how an argument between a person who defends the scientific approach and a person who supports some other system can ever be settled. The scientist cannot profitably quarrel with the non-scientist.

2. *Fields of Science*

OUR BODY of scientific knowledge is not spread evenly over all possible subject matter. People have been led to examine this or that facet of the universe for this or that reason; at any one moment there exists a variety of scientific statements, classed roughly under such rubrics as archeology, psychology, botany, linguistics, embryology, and so forth. It is never completely clear, at a given moment, just what relations hold between the statements of these different fields, for the operational definitions of one differ more or less from the operational definitions of another.

If the expression 'unity of science' is taken to imply something more than merely a methodological agreement between scientists in different fields, that 'something more' is in the nature of a constant compulsion on scientists to understand the interrelationships between fields. We reverse the Biblical injunction 'Let not thy left hand know what thy right hand doeth'; we require, ideally, that the entire body of scientific statement be consistent. The statements of the chemist, for example, based on one approach, and those of the cytologist, based on another, should not contradict each other. The discovery of such contradiction serves, just as do inaccurate predictions, to stimulate reinvestigation and restatement.

In the course of this search for overall consistency, a significant fact appears: it is sometimes found, from a comparison of the operational definitions of terms in two different fields, that one field is markedly more *general* than the other. One of the statements of mechanics describes the motion of a falling body. The operational definitions underlying this law do not limit its application to inanimate bodies. The same law of motion covers the fall of a stone and of a cat. It is true that not all of the statements of mechanics have been tested with animate objects, but there is presumptive evidence that those statements, in so far as they hold at all, hold for all material bodies, regardless of those differentiae between stones and cats which the zoölogist counts as important. The reverse is not true: the statements of the zoölogist describe the behavior of animals, but not of stones. In this sense it seems legitimate to say that mechanics is a more general field than zoölogy.

Similarly, physics is more general than chemistry. Chemistry is concerned only with those properties of matter which depend on valence. The chemical properties of an element are definable as those which remain invariant under all

purely nuclear transformations. Not all nuclear transformations are free from effects on the valence shell of electrons, so some physical changes are accompanied by chemical changes. But the chemist *qua* chemist is concerned in such a case only with the chemical results, not with the nuclear changes which accompany, or (if one prefers) which 'cause' them.

Again, newtonian mechanics, involving euclidean geometry and aristotelian logic, works out well for bodies of medium size moving at fairly slow velocities relative to the observer. It proves embarrassingly inaccurate for high velocities and for very small-scale phenomena. The problem therefore arises of constructing a mechanics which will account well for what is observed at high velocities and on a small scale, but which will contain within itself, as a special case applicable within certain limits, the earlier newtonian mechanics. The new mechanics will then constitute a more general field than the old, in precisely our sense. Its geometry may be non-euclidean, and yet operationally equivalent to euclidean within certain bounds; its logic will perhaps be non-aristotelian, and yet will contain aristotelian logic as a special case.

3. *The Reduction Theory*

ALTHOUGH preliminary examination often leads us to suspect that one field is more general than another, this impression is not necessarily right. The crucial test is the possibility of what we will call reduction. Given chemistry, which involves the fundamental term 'valence,' and physics, which seems more general, can we, so to speak, 'explain' the chemist's phenomenon of valence in the terms of the physicist? Can we translate the chemist's statements into a set of physical statements which do not involve the term 'valence'?

The electronic theory of valence is an effort at such translation. We must distinguish between this particular theory and the more general theory of the reducibility of chemistry to physics. Each is a hypothesis, like any other scientific statement, but the failure of the former after prediction and experimentation would not perforce entail the rejection of the latter. The general theory could be disproved only by formulating, testing, and disproving every specific reduction theory logically possible. Such a program is not necessarily unending, for some of the specific theories would probably turn out to be testable in groups. Meanwhile the general theory of reducibility of chemistry to physics is fruitful, whereas its converse — that is, that there are chemical 'ultimate simples'— is not. For this alternative hypothesis is not subject to any direct testing; it can be proved or disproved only as a result of the outcome of experimentation based on the theory of reducibility.

Economists build up a description of the economic behavior of individuals and groups within our own Western community, and are able to make some correct predictions on the basis of their theory. The attempt, often made, to 'explain' their valid generalizations in terms of an assumed 'economic man' is not an application of the reduction theory; for the 'economic man' is not an induc-

tive generalization, but rather simply part of the terminological apparatus economists use in describing and predicting. A reduction theory for the body of western economic doctrine would be an effort to translate the statements which constitute that doctrine into the more general terms of cultural anthropology, the statements of which are based on the observation of many different communities, not just of our own community of expanded Europe. There have been some efforts in this direction already.

We must pause here to emphasize that the validity of that body of statement called chemistry, or economics — or, for that matter, hydrodynamics, linguistics, pomology, or any other field — depends in no way on the possibility of reduction to some apparently more general field. If, after all, there should prove to be chemical (or western economic, or hydrodynamic) 'ultimate simples,' then so be it; the irreducible field is still a branch of science, to the extent that its methods are those of operational definition and prediction.

Now when the reduction theory is presented in terms of chemistry and physics, few, if any, objections are raised. It seems a belaboring of the obvious. Not so, however, in the cases of two other pairs of fields which seem, at least superficially, to be related much as are chemistry and physics. One of these pairs is biology and physical science; the other is human sociology and biology. Certainly on first examination human sociology seems the least general of these three, and physical science the most general. Therefore one would assume that the reduction theory ought to apply here, as in other cases, as the working hypothesis in terms of which to test the validity of the impression.

In fact, however, only some of the workers in the fields concerned have made that assumption (under one label or another). Some social and biological scientists have not concerned themselves with the problem at all, and that is perfectly legitimate, since a particular investigator may simply say 'I shall operate within such-and-such prescribed limits, and leave the problems of interconnections with other fields to other investigators.' But when the reduction theory has been discussed, in each case there has been, and still is, a controversy between two opposing points of view. For biology and physical science the label *mechanist* has been applied to the point of view which assumes the reduction theory, and the label *vitalist* to the point of view which assumes the contrary. For social science and biology, the same label *mechanist,* significantly enough, applies to the approach which assumes the reduction theory, and the term *mentalist* is used for the converse approach.

We shall see shortly that the points of view of the vitalist and of the mentalist are quite similar. This does not imply any necessary identification of the two; that is, a vitalist may be, in so far as he concerns himself with the problem, either a mentalist or a non-mentalist, and a mentalist, when he feels entitled to take a stand on the biological problem, may be either a vitalist or a non-vitalist.

The claims of the vitalists, stated in the terminology of this paper, are more or less as follows: (1) It may be true that all of the generalizations of the physicist hold for living and non-living matter alike. This has not yet been demonstrated; there is some reason to believe that living matter behaves in a manner contrary to some of the generalizations of physical science, based, as they have been, mainly on the observation of non-living matter (*e.g.*, do transformations in the cell nucleus really conform to the law of the conservation of energy?). (2) Even if the statements of the physical scientist prove to be general in their applicability, there nevertheless remains a core of operationally and predictably valid biological statement which cannot be translated into the terms of physical science, and which therefore requires the assumption of certain biological ultimates; we may use, for these, such terms as *life, élan vital, vital essence, entelechy* —the terms do not matter, as long as their status is clear.

The claims of the mentalists, similarly stated, are approximately these: (1) It may be true that all of the generalizations of the biologist (and of the physical scientist) hold for human beings and for other organisms alike. This has not yet been demonstrated; there is some reason to suspect that human beings behave in a manner contrary to some of the generalizations of the biologist, based largely on experimentation with other and simpler species. (2) Even if the biologist's statements prove to be general in their applicability, there nevertheless remains a core of operationally and predictably valid human-sociological statement which cannot be translated into the terms of biological (and physical) science, and which therefore requires the assumption of certain human-sociological ultimates. We may use, for these, such terms as *mind, spirit, soul, human nature* — the term does not matter, as long as their status is clear.

Obviously either or both of these theories may eventually prove correct. Unfortunately, neither the vitalist nor the mentalist assumption tells us what experiments to perform, what observations to make, in order to test their validity. The situation is precisely analogous to that described for chemistry and physics. It is the theory of reduction, in its specific form of the two mechanistic assumptions, which here as with chemistry and physics tells us how to conduct our investigations. Here, as there, any ultimate proof of vitalism or mentalism can come only by default.

A slightly cynical cultural anthropologist might remark that the theory of reduction meets with greater difficulty in gaining acceptance for biology and for social science than it does for chemistry in relation to physics because of man's typical anthropocentrism — the common desire of human beings to mark themselves as something fundamentally different from the rest of the universe. This remark would really be irrelevant, since we are concerned here with methods and results, not with the motivations of scientists as human beings. But in the same vein it could be countered that for those scientists who, as human beings, dislike the 'mysterious,' the reduction theory strips the mystery from Man, and from

Life itself; for those who, on the contrary, *like* the 'mysterious,' it may instead be regarded as adding the 'mystery' of Man to that of Life, and the 'mystery' of Life to that of the rest of Nature. Such matters are stylistic: neither Watson's matter-of-fact *Behaviorism* nor Sir James Jeans' lonely *Mysterious Universe* are properly to be judged in this light, but rather only in terms of whatever positive scientific content they may possess.

4. *Biophysics and 'Sociobiology'*

THE PROBLEM of describing biological phenomena in the terminology of physical science is so intricate, and of such crucial importance, that activities directed toward its solution have received a name: *biophysics*. D'Arcy Wentworth Thompson, who, is virtually the founding father of modern biophysics, sets forth the fundamental problem of the field in the introductory chapter of his remarkable book *On Growth and Form*, and states the point of view and the methodology in the following words:

> We may readily admit . . . that besides phenomena which are obviously physical in their nature, there are actions visible as well as invisible taking place within living cells which our knowledge does not permit us to ascribe with certainty to any known physical force; and it may or may not be that these phenomena will yield in time to the methods of physical investigation. Whether or no, it is plain that we have no clear rule or guide as to what is 'vital' [*i.e.*, irreducible] and what is not; the whole assemblage of so-called vital phenomena, or properties of the organism, cannot be clearly classified into those that are physical in origin and those that are *sui generis* and peculiar to living things. All we can do meanwhile is to analyze, bit by bit, those parts of the whole to which the ordinary laws of the physical forces more or less obviously and clearly and indubitably apply.

Even in 1917, when these words were published, Thompson was able to demonstrate the partial reducibility of a number of biological phenomena to physical terms: the similarities of behavior of a cell and an oil droplet, or of a quadruped backbone and a suspension bridge, or of walking legs and swinging pendulums, all afford clues; one can hardly assay the differences until such similarities are investigated. Since 1917 much more work has been done, and it may be there is a steady decline in the amount of biological statement which remains irreducible to physics; we need hardly be dismayed if the volume of such apparently irreducible biology still remains large.

The problem of describing human-sociological phenomena in the terminology of biological (and physical) science is as intricate and as important as the problem of biophysics, and much work has been done on it; but activities directed toward this have so far received no name — or, at least, no name on which there is general agreement. This need not hamper our discussion. Since there is no generally accepted word for just what we mean, we can, for the

purposes of the present discussion, coin one. On the analogy of *biophysics,* we shall speak of *sociobiology.*[2]

We can even define the problem of sociobiology by paraphrasing Thompson's words:

> Besides phenomena which are obviously physical or biological in their nature, there are actions, visible as well as invisible, taking place within and between human beings which our knowledge does not permit us to ascribe with certainty to any known physical and biological forces; and it may or may not be that these phenomena will yield in time to the methods of physical and biological investigation. Whether or no, it is plain that we have no clear rule or guide as to what is 'mental' [*i.e.,* irreducible] and what is not; the whole assemblage of so-called human phenomena, or properties of human beings and human groups, cannot clearly be classified into those that are physical and biological in origin and those that are *sui generis* and peculiar to human beings. All we can do meanwhile is to analyze, bit by bit, those parts of the whole to which the ordinary laws of physical and biological forces more or less clearly and obviously and indubitably apply.

It is not surprising, all things considered, that no label generally agreed on has yet been assigned to the field of investigation here called sociobiology.

In the first place, it is obvious that the reduction theory cannot be applied in a field until there is a substantial body of scientific knowledge in that field itself. The status of our knowledge in social science is far from clear. This is partly because so much social study is still conducted within frames of reference other than that of science. It is partly because social scientists have until recently confined their attention almost exclusively to patterns within our own society, and so have not had an adequate basis for the extraction of the human common denominator, the patterns common to all human societies everywhere. But there is another factor, perhaps even more important. Contrary to the popular view, social science is not the 'easiest' of the three main branches of scientific endeavor, but by far the most complex. One of the clearest bits of evidence for this is the great difficulty encountered in any effort to apply mathematical procedures in social science; the difficulty is less in biology, and least of all in physical science. Not unrelated, as evidence, is the historical sequence in which the three branches have been established: physical science first, then biology, then social science (and so one often hears that social science awaits its 'Darwin,' while biology awaits its 'Einstein'). The complexity of social science also manifests itself in the intricate division of labor which now obtains, and perhaps must obtain: workers in different phases of social science have trouble enough

[2] Since the original publication of this paper, the writer's attention has been called to a use of the term *sociobiology,* in a sense at least somewhat akin to that given it here, by Trigant Burrow. If the text of the present paper seems to claim originality in the coining of that term, the claim is hereby gladly withdrawn.

trying to understand one another, without the superimposed problem of understanding biologists and physical scientists.

If such factors have prevented the emergence of sociobiology as a defined and ticketed discipline up to the present, it is nevertheless clear that the time must soon arrive for the overt establishment of that field.

5. *Linguistics and Sociobiology*

OUR INTENTION now is to state some of the specific lines along which that branch of social science called *linguistics* can contribute to the solution of the problem of sociobiology.

First we must indicate the position of linguistics among the social sciences. Linguistics is a subdivision of anthropology, which we may define quite specifically, in contrast to other social sciences, in terms of the fundamental problem of anthropology: what, precisely, are those patterns of behavior which are common to all human communities everywhere, but are not shared also by any nonhuman organisms? Within this framework, what are the ranges of variation? How, in history, were these specific patterns developed, in contrast to more general biological patterns? We may similarly state the fundamental problem of linguistics: of all that is generally but peculiarly human (as determined by anthropology), what specific portion is due to language, and in what way? Of the variations within this framework, which are due to linguistic differences, which are due to the nature of language in general, which are independent of language? How, in history, has language had the function it has? In this second set of questions there is but one common-vocabulary term which needs comment: by language the linguist means to include only speech, communication by sound, to the exclusion of gesture, writing, and other modes of behavior which are sometimes loosely called 'language'; the first of these things is known to be shared by all human communities which have been observed, whereas the others either are not known to be, or are known not to be.

Linguistics is only in its beginnings, and yet there is already a substantial body of achievement. These achievements, unfortunately, are almost totally unknown to the general educated public. When the subject is mentioned, most of us think first of all of the 'grammar' we learned in high school; this bears about the same relation to scientific linguistics that the ancient Greek theory of the four 'elements' bears to modern physics and chemistry. It would lead us too far astray to discuss this in detail; we shall have to assume a knowledge of the main tenets of modern linguistics just as we assumed familiarity with such matters as the electronic theory of valence earlier in our discussion.

Linguistics has, first of all, an indirect methodological contribution to make to sociobiology. We have said that social science is the most complex of the three major branches of science; of all the possible facets of human life on which one can focus, language, despite its enormous complexity, is one of the simplest.

Consequently our methods in linguistics may be defined with relative ease and clarity, and there are already certain *general* results: once the necessary terms have been defined, one can speak without repetition for as long as 15 or 20 minutes on those properties of human language common to all known human communities. There is serious question as to whether the list of generally valid statements about any other phase of human life would take that long to present.

But language is one part of culture — in the anthropologist's sense: patterns of behavior transmitted not through the germ plasm, but socially. Methods which have been worked out for the analysis of language ought to apply, at least in part, to the study of other phases of culture. One might propose a program in which the techniques of analysis which have been developed in linguistics would be extended, analogically, first to those human sign-systems, such as writing, which are historically and genetically derivative from language; then to whatever human sign-systems there may be (possibly facial gesture) which are not so related to language; and then to non-symbolic phases of culture, if indeed there are any. Such an extension of linguistic methodology to other parts of cultural study, partly by those methods which have been called 'ethnolinguistics,' promises to be fruitful, and to the extent that it proves so, has an indirect bearing on sociobiology.

Beyond this, linguistics has also a much more direct and important bearing on sociobiology, because of the crucial position of language in human behavior. Language is the most typically human of all man's sign-systems, and unquestionably the most elaborate sign-system to be found, either among humans or elsewhere. On the biological and physical levels, it seems probable that to 'explain' language, as well as any other human or non-human sign-system (here 'explain' has the meaning given to it in the earlier discussion, page 221), just two things are needed. One is the biological mechanism known as the conditioned response. This is a complex matter, but we may regard the mechanism, for sociobiological purposes, as given; further analysis of conditioned responses is the business of biology, or perhaps of biophysics, but not of social science. The other requisite is a fuller knowledge of the structure of the human organism, particularly the central nervous system, as it bears on the process of speaking and hearing. This aspect of the matter has only recently begun to come under control; in a brilliant monograph Martin Joos outlines the nature of the problem and hints at what the answer may be.

Now let us direct our attention the other way, and examine some of the things that language accomplishes. Language is the fundamental mechanism of human collective behavior, functioning for human communities — as has been said again and again — much as the nervous system functions for the various organs of a single organism. This is more than an analogy. Because of language, a stimulus to one person (say the sight of an apple) may give rise to a response on the part of a different person (climbing a fence, picking the apple, and

giving it to the first person); the most complex example of human collective behavior is but a more intricate manifestation of the same mechanism. The habits and apparatus with which human beings gather or produce their biological necessities constitute technology; the elaborateness of collective patterns among human beings in this regard is made possible by language, so that it may quite literally be said that language is the most fundamental element of human technology.

Language channels those behavior patterns which underlie, or perhaps constitute, social structure. If we observe a community and chart the differences in speech-forms dependent on who is speaking, to whom, and about whom, and correlate this with non-speech behavior patterns similarly organized, the resulting chart informs us completely as to the behavior of individuals in the community relative to each other. A newcomer to the community, *e.g.*, a newborn child, assumes a position in the social structure, and changes that position from time to time; the pattern for such transformations of social position is socially inherited, and the main mechanism for the enculturation is language. This complex of more or less stable forms of speech and associated non-speech behavior may be regarded either as a representation of social structure, or, with complete validity within our operational approach, as constituting social structure — just as a gravitational or electromagnetic field may be regarded either as a representation of how certain objects will behave under certain conditions, or else as an actual objective 'reality.'

In economic behavior, the rôle of language, and of secondary sign-systems derived from or made possible by language, is essential. Exchange of commodities is hardly a uniquely human matter; different species living in symbiosis manifest something more than vaguely similar. The special (though not universal) feature of commodity exchange among humans is the equating, for purposes of exchange, of varying quantities of different commodities, an operation possible in any elaborate form only because of language. In some societies, including our own, there is the further establishment of certain specialized commodities which have, in themselves, no or very little biological value, but which serve as a means for the equating of other commodities with each other. These special commodities (coins, currency, instruments of credit) are indubitably symbolic. The absence in them of any great immediate biological value is exactly the case of the lip-and-jaw motions or the sound-waves which constitute speech, and their relation to items which do have immediate biological use is also exactly the case of language. Further, the historical process by which they came into being and acquired the semantics they have is a process which involves language at every step. Symbols may come to be manipulated without much regard for what they represent biologically; when this happens with the symbols which constitute language, one has metaphysics; when it happens with economic symbols, one has high-finance. Either may have significant biological consequences.

EARLY in this paper we spoke of predictions. A prediction is a statement (an instance of language) about something that has not yet happened, about something in the future; every known language supplies its speakers with at least a dozen or so differentiated ways of speaking about future events. We shall see that predictions are of fundamental importance in various facets of human behavior, not only in science. A contract is a prediction; so is a law; so is a court decision. Difficulty over a contract arises when the terms used therein are not operationally defined, or when their operational definitions are different to the various parties, or when the provisions for various alternative possibilities are not elaborate enough, or when the contracting parties, one or more of them, behave as though one or another of these factors were involved — or, finally, when record of the contract (the written document which is commonly, though wrongly, termed a 'contract') was either never made or has been lost, so that memories of the prediction may diverge. A law might be similarly characterized. A legal decision is a prediction; it is accurate if people have the habit of performing the operations which constitute punishment or corporation-dissolving or the like.

The nature of language and the particular quirks of specific languages shape our day-dreaming and our philosophizing, and are instrumental in our errors and our neuroses. Bloomfield, describing the process by which the child acquires his speech habits, writes:

> The [child's previously acquired] habit of saying *da* at sight of the doll gives rise to further habits. Suppose, for instance, that day after day the child is given his doll (and says *da, da, da*) immediately after his bath. He has now a habit of saying *da, da* after his bath; that is, if one day the mother forgets to give him the doll, he may nevertheless cry *da, da* after his bath. 'He is asking for his doll,' says the mother, and she is right, since doubtless an adult's 'asking for' or 'wanting' things is only a more complicated type of the same situation. The child has now embarked upon *abstract* or *displaced* speech: he names a thing even when that thing is not present.

From 'asking for' or 'wanting' one passes on, with the great variety of terminological differentiation a language supplies, to more complicated emotional reactions; from naming things even when they are not present, one passes easily to naming things that cannot be present because they do not exist: hence the cultural channeling of emotion, institutionalization of error, the production of neurosis, day-dreams, abstract philosophy.

In such matters, the differential effect of one language *versus* another is harder to pin down. The nineteenth-century philosophical-descriptive students of language, such as Humboldt, Steinthal, von der Gabelentz, Wundt, thought that they had discovered such differences, but much of what they had to say was based on an inadequate knowledge of the variety of language structures to be found, and, in addition, was based far more on *a priori* speculation than on induction. We are now past this stage of easy generalization; yet there are clues.

It has been proposed that the structure of aristotelian logic is what it is at least in part because of the syntactical structure of the Greek language. It is equally possible that the Chinese tradition of the 'doctrine of the mean' is not unrelated to a certain well-defined set of grammatical patterns, found in most modern Chinese dialects (though not in the artificial literary dialect), which may be old enough and deep-seated enough to have shaped the emerging philosophical doctrine some centuries ago. It has been demonstrated that the language of the Hopi Indians is far better suited, in its essential grammatical structure, to the discussion of vibratory phenomena of the kind that concerns the modern physicist so much, than is English or any other modern European language; yet it is our community that has developed harmonic analysis, not the Hopis. The followers of Alfred Korzybski emphasize this type of language influence; their control of the accomplishments of linguistics is in general not sufficiently detailed, but what they have said ought not to be written off on the grounds that they are 'faddists.' Benjamin Whorf, who made the Hopi demonstration, and who was a well-trained linguistic scientist, made some other extremely bold statements along these lines during the thirties, and his work, even if of doubtful validity in details, is of fundamental importance as a guidepost pointing toward badly needed research.

Now it would be ridiculous to claim that in such phases of human life as have been mentioned above, or others (political behavior, literature and related fields of art, magic, religion, science), language was the *only* factor making human behavior what it is. Our point is that the importance of this factor is not to be underestimated; that in taking it into consideration one cannot simply rest, as have many, upon acquiring a general notion of what linguistics has accomplished, but must devote the necessary hard labor to acquire the highly technical and precise procedures and terminology of modern linguistics; and, above all, that since this is one aspect of human behavior about which we do have some well-established information, linguistics affords an excellent *point d'appui* for the attack on the whole field.

To emphasize the fact that linguistics is by no means a complete answer to the problem of sociobiology, we may mention a few forms of human behavior which are universal, or at least widespread, and which seem to be quite unrelated to language. Unexpectedly, perhaps, one such institution is music: out of the same mouth come both song and speech, sometimes at the same time, yet our knowledge of the latter seems not to help us in understanding the mechanisms of the former (save perhaps methodologically). Other art forms — the dance, painting, sculpture, architecture — seem to be in the same position. It is only to the study of literature, and of the literary side of music or drama, that linguistics has any relevant contribution to make.

There are characteristically human ways of handling such general biological matters as reproduction, eating, elimination, walking, and the like, which may

have no relation to the fact that man is the speaking animal. In every human community sex and reproduction are regulated, at least partly, by some more or less permanent form of family organization. Is there any correlation between man's language and his family structure, in contrast to the muteness and less permanent mating habits of the anthropoid apes? In most communities, though perhaps not in all, one eats meals; certain specific times are set aside for the intake of food, in contrast to the general anthropoid habit of eating whenever food is found, sometimes all day long. Was language a necessary antecedent to this? Bipedal ambulation is not exclusively human; but the precise manner of walking varies, from community to community and often from subgroup to subgroup or from individual to individual, in a way which is obviously partly culturally determined. In some communities women pointedly accentuate the breadth of the female pelvis in their gait, whereas in others women walk as much like men as is biologically possible (a contrast, somewhat of this type, is easily seen between female walking habits in most of Europe and in America).

Matters of this kind are just as important for anthropology and, by virtue of that, for sociobiology as are those where our understanding of language can help.

Conclusion

WE RETURN to our original concern: the implications of the expression ***the unity of science***.

The first implication of this expression is an agreement in method, in point of view: any field of human endeavor in which those involved act in accordance with operational definition and predictability, is a branch of science.

The second implication is somewhat deeper; we strive against any elementalistic acceptance of the various branches of science, or separate 'sciences,' as having no necessary relation to each other except that of agreement on method. In actuality, their various subject-matters overlap, so that we must search for overall consistency.

The third implication is our acceptance, as an overall fundamental working hypothesis, of the reduction theory, with physical science as most general, to which all others are reducible; with biological science less general; and with social science least general of all.

This third implication requires the recognition of two specific borderline fields with special tasks: biophysics, already well established, which deals with the reduction of biological knowledge to physical statement; and sociobiology, which treats of the translation of sociological knowledge into biological terms.

An endeavor has been made to show that sociobiology, although never before called that, already exists; that its problems, largely through what has been learned so far about the nature of human language, are already part-way toward solution; that its further development is a prime desideratum for the demonstration of the fundamental unity of science.

REFERENCES

Only the most essential references are given, keyed to the text by section and, when necessary, by brief allusion to the content of individual paragraphs.

1. Operationalism needs no comment; but on predictability see particularly Anatol Rapoport, 'The Criterion of Predictability,' *ETC.*, 2.129-51 (1945). For scientific hypotheses as *statements* (and for many other remarks in this paper) see Leonard Bloomfield, 'Linguistic Aspects of Science.' *International Encyclopedia of Unified Science* 1.4 (Chicago, 1939).

Science as organized common sense: Thomas H. Huxley, *Collected Essays* 3.45. Operational definition of common-vocabulary terms: A. P. Weiss, *A Theoretical Basis of Human Behavior* (2nd. edition, Columbus, 1929), pp. 21-3.

2. On non-aristotelian logic, see J. von Neuman and G. Birkhoff, 'The Logic of Quantum Mechanics,' *Annals of Mathematics* 37 (1936).

3. For the anthropological frame of reference for economics, see the bibliography in Chapter 6 of M. Jacobs and B. J. Stern, *Outline of Anthropology* (New York, 1947).

There is a pseudo-reduction theory which would forbid, for example, the discussion of the behavior of nations as wholes, because nations are 'really' just agglomerations of individuals, and only individuals really 'do' anything. This is well criticized by G. A. Lundberg, *Foundations of Sociology* (New York, 1939), pp. 163-72.

The mechanist-mentalist controversy is most apparent in linguistics and psychology; see the works of Weiss and Bloomfield cited above; also the latter's *Language* (New York, 1933), esp. pp. 31-3, and his 'Language or Ideas?' in (the journal) *Language* 12.89-95 (1936). Other social scientists use terms such as *idea, mind, concept* as common-vocabulary words; the linguist must not, for part of his task is to investigate the operational definition of these terms and attempt their translation into more fundamental behavioristic language.

4. D'Arcy W. Thompson, *On Growth and Form* (Cambridge, 1917), p. 14. In the present discussion biochemistry, which from its name sounds like a borderline field, is subsumed under the term 'biophysics' in so far as its results are relevant.

5. For the results of linguistics, see the works of Bloomfield already cited, especially his book *Language*. But the most penetrating discussion of modern structural linguistic method will be found in Zellig S. Harris, *Methods in Descriptive Linguistics* (Linguistic Society of America, 1948).

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The passage from Bloomfield is from his *Language*, p. 30. The biological components of 'emotions' are probably not very highly differentiated; it is our large variety of emotion-words, classifying much the same physiological reactions in terms of various social situations, that makes for complexity.

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SEMANTICS IN INTERNATIONAL RELATIONS

GEORGE A. LUNDBERG *

THE TRICKS which politicians have played with language through the ages to lead and to mislead people is the subject of a large literature. Usually the discussion is confined to the past rather than the present for the simple reason that current circumlocutions must not be recognized as such if they are to be effective. He who prematurely turns the spotlight on contemporary verbal legerdemain is likely to be not only without applause in his own culture, but also to be regarded as an ignoble fellow casting aspersions on Sacred Things. No better illustration of the phenomenon could be found than in the language of contemporary international affairs.

I do not know, for example, who invented the 'isolationist-internationalist' dichotomy, nor whether he was aware that the imposition of such a framework succeeded in obscuring the whole issue and in largely preventing any intelligent or relevant discussion. Once a frame of reference of this sort is accepted, it partakes of the framework of nature itself and discussion in any other terms seems unrealistic. Yet a little examination readily reveals the essential obfuscation of the issues by this categorization. By the used of a word like 'isolationist,' to designate the opponents of a *particular* international program that come to the front in the late thirties, one party distracted attention from the details of their policy and imputed to their opponents an imaginary position.

The phrase 'isolationism' implies a policy of non-intercourse of any kind with other countries, a situation which probably cannot exist under modern conditions and which, in any event, has not existed in the western world for centuries. A highly developed system of diplomatic, trade and other relations has, of course, existed ever since the appearance of national states. No one, perhaps, is opposed to such relations, although there may be question about particular proposals. Very few people are opposed to more adequate world organization for the same reason that very few are opposed to good weather, health, peace, prosperity, or happiness. Extremely proper and crucial questions may, however, be asked about *types* and *methods* of organization. To designate all who question a particular proposal as *isolationist* is merely using the word as an epithet. This use of the word enables its user to digress from the issues and eloquently to attack a position which nobody holds.

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To designate, for example, the policy and practice of the United States during the last century as isolationist is absurd. For one thing, the United States through the Monroe Doctrine formally notified the world over 100 years ago that it would as a matter of policy intervene in certain international areas and affairs which were deemed to affect its interests. Rightly or wrongly, that policy has had the overwhelming support of the American people. Furthermore, we have gone beyond that policy on at least three occasions during the past fifty years to engage in wars in the eastern hemisphere, to say nothing of our participation in peacetime international arrangements such as the World Court following the first World War. Whatever view one may take of the merits of these enterprises, they are hardly isolationist.

The isolationist-internationalist issue can, therefore, be regarded only as a device which has distracted attention from sober consideration of the real issues and problems of international organization. Some of these have to do with fundamental questions of physical and cultural regions, resources and technology, and our knowledge of organizational techniques, rather than with questions of the survival of defunct empires, the designation of good men, bad men, the superiority of 'our way of life,' and the whole traditional moralistic-legalistic attitude. These are not questions of internationalism versus isolationism. In short, the whole frame of reference within which current discussion of international policy is carried on is at best based on ignorance of the real issue, and at worst based on intellectual fraud.

NEXT TO being an 'isolationist' perhaps the most disgraceful thing is to be an 'appeaser.' The dictionary says the word 'appease' means 'to reduce to peace, soothe, placate, pacify; to calm, still, or allay.' Yet the preachers and politicians, in the same breath that they pray for peace, sternly inveigh against 'appeasement' of nations with whom we have disputes. Anyone who advocates a dispassionate consideration of disputes on their merits and suggests possible compromises is an 'appeaser,' an evil and cowardly fellow. Yet no fact is more obvious than that social groups, to the extent that they have abandoned mutually exterminative warfare, have substituted appeasement and compromise. These are the social processes most commonly used in all social adjustments from the family quarrel to national and international disputes. Nor are appeasement and compromise resorted to only when physical violence has failed. No one could have desired a more complete military victory than that achieved by the Allies in the first World War. Yet the ink was hardly dry on the Versailles Treaty before the machinery of appeasement and compromise was set in motion. It is no answer to say 'we shouldn't have done it.' The fact is that the victors found themselves in the position where it appeared to be the sensible thing to do. In the substitution of the Marshall plan for the Morgenthau plan we see the beginning of the same process after the second World War.

By surrounding the traditionally pacific word 'appeasement' with unworthy connotations, millions of people are led to believe that what is, perhaps, the only major method of achieving non-violent adjustment in human affairs and the one which has been employed for this purpose throughout the centuries is an ignoble and undesirable process. Similar mischief is caused by phrases like 'unconditional surrender.' Infatuation with this heroic phrase perhaps brought about ten months of additional unnecessary bloodshed toward the close of the recent war. The unescapable fact, of course, is that any surrender involves *some* conditions. These conditions are not entirely determined by the whim, indignation, or sense of 'justice' of the victor, or the 'desert' of the vanquished. The conditions of a surrender, and especially the ensuing policy, are determined by certain stern realities which bind the conqueror as well as the conquered. Thus, no matter how dramatic is the language with which the situation is dressed, in the end all surrenders are conditional surrenders. That fact may as well have been recognized before Hiroshima and Nagasaki as afterwards.

VERY SIMILAR to the semantic sorcery surrounding the current use of such terms as 'isolation' and 'appeasement' are the euphemisms 'containment' and 'preventive war.' Our military operations throughout the world are never aggressive, imperialistic, or expansionist. When we give submarines to Turkey and gear their military machine so that their arms and ammunition can be used interchangeably with our own, this is a highly pacific move designed to promote world peace and the 'containment' of communism. One need hardly mention the vocabulary which similar operations, let us imagine, by Russia in Mexico would call forth. Or consider, for another illustration, the currently advertised virtue of 'bi-partisan' government, at least in foreign affairs. Much has been said during the war and afterwards of the evils of one-party government. But a 'bi-partisan' government, with the same program, that is something else! No more obscenity and disharmony during campaigns in which different parties advocate different foreign policies so that people may choose between them! To be sure, we are still allowed a choice of candidates, provided they both favor the same foreign policy. In short, let us be sure that we have more than one party, but let us see to it that all the parties are *for* the same thing. At the same time, let us beware of one-party government and totalitarianism! Again, the policies currently advocated are declared to be based on a 'calculated risk.' This has the respectable ring of actuarial and business argot, whereas the only basis for the present calculation about foreign policies is, perhaps, the known effect of certain moves on the results of the next election.

One of the most flagrant and amusing examples of how verbal magic is used to distract attention from the realities in international relations is the vocabulary of foreign trade. Operationally speaking, *trade* means the exchange of commodities or services on the basis of different values that men attach to

the things exchanged. Under modern conditions, money has become the accepted medium or symbol of this exchange. Hereby hangs one of the most illuminating examples of the degree to which confusion of symbols with the things symbolized has swept over whole populations, including large numbers of economists, not to mention, of course, the politicians and the 'statesmen.' Under this semantic illusion millions of people are unable to see any significant difference between (1) exchanging *commodities and services* between nations and (2) the process by which one party sends commodities and services to the other and at the same time provides the purchaser with *money* with which to 'pay for' the things received. I am not here discussing the propriety, desirability, or advisability of charity, gifts, or loans from which the donor expects a return at some future time, either on earth or in heaven. I am only calling attention to the confusion which arises in thinking about and managing international relations when the word *trade* is used to describe two entirely different kinds of transactions. In wartime even more tenuous terms, such as 'lend-lease,' are devised to cover types of transactions that would disturb people if described in more realistic language.

Incidentally, a curious dilemma suggests itself for those who are at once devoted to the 'one world' idea and equally convinced that no peaceful world is possible without *foreign* trade. Under the various 'one-world' schemes there would, of course, be no *foreign* nations to trade with. To say that domestic trade will then fulfill the present necessities of foreign trade obviously will not do because it suggests that the United States, for example, might substitute trading between the states for its foreign trade which, as everyone is quick to note, is national economic 'autarchy,' and 'isolationism,' if not Fascism. Planetary autarchy would, I take it, be an even greater evil than national autarchy, for it must not be forgotten that the essential virtue of foreign trade is that it must be *foreign*. Perhaps the apparent postponement of the 'one world' is a blessing in disguise in that, until trade with the other planets is developed, we might find ourselves with a perfectly good 'one world' hopelessly crippled because of its lack of *foreign* trade.

Now, obviously, no one has any objection to foreign *trade*, properly speaking. It has existed between nations since very ancient times, and it will doubtless continue in the future whenever the necessarily mutual conditions of advantage for it obtain. In the end, a given population must in any case come to terms with the problem of living in a finite area on finite resources whether such area embraces a region, a continent, or a planet. What is the *optimum* area, population, and variety of resources at present is a question for scientific determination. The answer will be determined largely by the existing state of knowledge of social and political, as well as other kinds, of technology. We have been concerned above about quite a different situation, namely, one in which people become so infatuated with the *symbols* of foreign trade, and the

very words themselves, that it is believed the export of commodities *under any conditions* whatever makes for national prosperity.

A FULL review of the current language of foreign relations is the proper task for an H. L. Mencken or some other lexicographer of the American and other languages. I have not undertaken any appraisal of the merits or demerits of any of the policies involved in the euphemisms, hyperboles, and ambiguities in terms of which discourse about international relations at present is carried on. I merely raise the question whether there is any reason to expect progress in the adjustment of situations as long as they are dealt with in symbols and sentences meaning all things to all men and which, in any event, do not correspond to the events with which we must come to terms. As a result of the survival of a primitive conception of the nature of words and of language, people have become more concerned about whether a given course of conduct is called 'isolationist,' 'appeasement,' 'interventionist' or 'internationalist' than they are interested in whether it would work and achieve the results we seek. The words do not correspond to the events, and disaster lurks at every corner as a result.

> The question, 'What is the nature of a material thing?' is, like any other question of that form, a linguistic question, being a demand for a definition. And the propositions which are set forth in answer to it are linguistic propositions, even though they may be expressed in such a way that they seem to be factual. They are propositions about the relationship of symbols, and not about the properties of the things which the symbols denote.
>
> A. J. AYER, *Language, Truth and Logic*

GENERAL SEMANTICS: A TOOL FOR THE COUNSELOR

HENRY CLAY LINDGREN *

DURING THE PAST ten years most professional workers in the field of guidance have acquired, through readings or discussions, at least a superficial acquaintanceship with the teachings of general semantics. A review of the literature, however, indicates that the potential value of the general semantics approach to counseling is as yet unexplored and unrealized. It is the purpose of this discussion to point out some of the ways in which general semantics can serve the counselor in his role of promoting the optimum adjustment of individuals.

Although the scope of this paper does not permit discussing the principles of general semantics at length, the following brief list of some of its fundamental concepts may aid in orienting the reader:

1. A word or symbol is not the thing it represents—it is an abstraction; hence, it should not be confused with the thing it represents (*e.g.*, a man's I.Q. is not his intelligence).
2. No two people, events, ideas, places, or things are identical; hence, our predictions, generalities, and systems of classification are limited (*e.g.*, the specific behavior of a 'neurasthenic' cannot be predicted in all situations).
3. Words and symbols have both denotative and connotative aspects, and no single word, event, or symbol will be interpreted the same way by different persons, either denotatively or connotatively (*e.g.*, not everyone is depressed at becoming unemployed).

For more complete discussions of general semantics, the reader is referred to the writings of Hayakawa, Johnson, and others listed in the bibliography. There he will find that general semantics epitomizes and synthesizes the results of thinking and experimentation which have culminated in what we term the 'scientific method.' He will find, further, that general semantics is a discipline which engenders objectivity, encourages scientific skepticism, and promotes a probing awareness or alertness with respect to the linguistic and symbolic aspects of individual and group behavior.

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Clients Viewed in Different Light

THE COUNSELOR who employs general semantics in his professional life sees the client in a different light. Information which has hitherto been routinely entered on the data sheet during an initial interview takes on new meanings, for the counselor discovers that it is not the recorded facts which are so important; it is the client's reaction to and evaluation of them.

For example, the fact that a client comes from a broken home becomes important to the semantically oriented counselor in terms of (1) the client's present reaction to this aspect of his past, and (2) the observable effects of this background on the client's behavior. The broken home has no significance as a discrete fact; the counselor rejects any tendency to classify this client as 'the broken-home type.' He does not thereby reject the findings of studies which may indicate that persons who come from broken homes have a greater tendency toward emotional maladjustment, but the counselor's knowledge of these data creates an awareness which enables him to open up new conversational leads, to explore the significance of otherwise unrelated facts, and, in short, to handle the interview more skilfully. The counselor who is skilled in general-semantic discipline would *not* arbitrarily classify the client as a probable or potential neurotic.

Admittedly this places a new burden on the counselor. He must not only view the client objectively and sympathetically from without; he must also view the client's environment objectively and emphatically from within. In other words, using the tools of the interview he must see the client's world as it appears to the client himself.

Counselor's Approach

IF THE counselor is successful in this maneuver he will see the client's environment in terms of its denotation as well as its connotation—in terms of its real and its symbolic elements. To illustrate: the weekly trip to the employment office for an unemployment check constitutes a series of acts which are denotatively similar for thousands of unemployed persons. They appear on the appointed days, they stand in line, they are interviewed, they get their checks. Yet each of these persons interprets this similar series of events in a different way. Some regard the process with shame and loathing; others have varying degrees of guilt feelings; some have the feeling of triumph at receiving the check; still others feel depressed and inadequate. This simple act is regarded by one person as a threat to his existence; another accepts it with evident enjoyment.

Because of the proclivity of individuals to react in different ways to similar situations, the counselor who operates on general-semantic principles assumes people are different, not similar; hence, he is less likely to be tricked into

unnecessary or unwarranted generalization, classification, or prediction. He finds himself taking a less dominant role in the counseling process; he tends toward a 'less-directive,' client-centered approach. He sees his chief function as aiding the client in the self-achievement of optimum adjustment, rather than imposing *his* solution of the client's problems.

Discussion of Job Fields

THE counselor who employs the general-semantic approach is cautious and skilful in discussing even such every-day phenomena as occupations. The varying orientation and backgrounds of his clients show him clearly that there is no such thing as 'the profession of engineering.' 'Engineering' has for each counselee a different meaning, speaking both denotatively and connotatively. From a denotative point of view, the semantic gap between concept and actuality which exists in the minds of most college freshmen, for example, is due primarily to lack of familiarity with the tasks, skills, and requirements of the profession.

This deficiency can sometimes be remedied by assigning readings in occupational literature. However, if the 'profession of engineering' connotes something highly desirable in the eyes of the client—something to be fought and bled for—the client will find it difficult, if not impossible, to interpret and evaluate his reading in the light of his own experiences, abilities, and potentialities, particularly if his insight into the nature and extent of his deficiencies is limited. The counselor who approaches a client's problems from the viewpoint of general semantics should have greater success in aiding his client to benefit from the reading of occupational material because, being aware of the possible existence of semantic blocks, he has prepared the client for realistic acceptance of facts.

Ideas on Teaching Stereotyped

DISCUSSION of the teaching profession also frequently leads to semantic difficulties, for widely accepted, stereotyped concepts (or 'signal reactions,' as general semanticists term them) tend to interfere with rational discussion of that profession. To large segments of the population the 'stereotype' for the teacher, particularly the teaching male, runs somewhat as follows: 'A teacher is a person who is unable to make a living at more competitive forms of employment and is therefore content to eke out an unhappy existence on the miserable pittance allowed him by generous taxpayers.'

Although the widespread comment incident to recent awakening of the general public to the fact that the nation's teachers are grossly underpaid has aided the profession economically, it has also served to reinforce this stereotype. The person who 'thinks' on an emotionalized level, in terms of stereotypes or

signal reactions, has little difficulty arriving at decisions inasmuch as he sees everything in terms of black or white. Hence, he has no trouble in rejecting teaching as a career, since he regards it as merely an unpleasant stereotype rather than as a living profession, composed of men and women who enjoy reasonably normal, successful, and happy lives, and whose status is constantly improving.

Technique Against Stereotypes

THERE IS, of course, no standardized semantic formula for dispelling delusions such as this stereotype represents. One technique, however, consists of discussing the life values the client expects to derive from his future occupation. If it seems appropriate, various aspects of the teaching profession are then discussed with particular regard to the client's values, but without mentioning the word 'teaching' or any of the words usually associated with the profession. The client is thus given an opportunity to discuss the profession in an objective manner without reference to his stereotype. When the client has accepted sufficient information on which to base an unbiased evaluation of the profession, the word 'teacher' is at length introduced.

If the stereotype has had a particularly strong hold on the client, he may then state: 'Well, I like to do all those things we were talking about, but I certainly wouldn't like to be a *teacher*.' In case the client has been able to accept the new concept of the teaching profession and eliminate the 'signal reaction,' his response may be: 'Well, I've never thought before that I would like teaching, but you have given me something new to think about.'

It is frequently necessary in school counseling or in Veterans Administration advisement to 'down-grade' a client who aspires to professional heights but whose chances of success are small or virtually non-existent. There is an unfortunate tendency on the part of many counselors who feel themselves possessed of superior knowledge—in the form of test scores, familiarity with entrance requirements of professional schools, and transcripts of grades—to step into their clients' lives and reset the controls, as it were, by saying: 'No, your marks won't admit you into medical school, and your intelligence test scores indicate that you couldn't make the grade even if you were admitted. Furthermore, your scores on the interest inventory indicate that you ought to be in some sort of clerical work.'

General-Semantic Point of View

THIS TYPE of statement is indefensible from a general-semantic point of view on several counts. A counselor who has the general-semantic approach to his work would not make a statement which threatens the integrity of his client's psychological defenses. As Wendell Johnson says, '. . . nothing is gained by

dressing the truth up like a scarecrow.' If the client lacks the insight to evaluate his own deficiencies, and it becomes administratively necessary to refuse or reject him, such rejection is worded in a way to permit the client to accept the observable facts and relate them to his own present and future. Furthermore, the counselor is prepared to discuss substitute vocational goals which may be more likely to satisfy the client's aspirational needs.

From the general-semantic point of view, the second flaw in the statement to the would-be medical student cited above is the use of the emotionally charged word 'intelligence.' The inference of inferior intelligence can be a blow of traumatic magnitude to a sensitive, emotional person. Although the use of the word 'intelligence' in connection with a test may be semantically defensible when used among psychologists, its use with the lay public involves a concept which is on a different level of abstraction. In order to avoid semantic blocking or complete misunderstanding, it is advisable to use the terms 'aptitudes' or 'abilities.'

In other words, it is quite possible to discuss with the counselee such neutral concepts as 'reading ability' or 'academic aptitude' without his feeling that he is a disgrace to his family, or that the counselor is inferring that he is not quite *compos mentis.*

Undue Stress on Test Scores

A THIRD type of semantic misdemeanor appearing in the quotation cited above is that of misinterpretation of test scores. Counselors deal routinely with test scores to such an extent that these symbols assume reality of their own, apart from the behaviors, populations, and concepts they symbolize. As a result, counselors tend to place undue stress on and credence in scores made on psychological tests. These misinterpretations range from 'You can never complete a college education with an I.Q. of 105' to 'According to this interest test you have a lot of persuasive ability and probably ought to be a minister.'

In the first instance the counselor means, rather, that a high percentage of persons whose scores on 'intelligence' tests are in the neighborhood of 105 I.Q. fail or drop out before they have completed a college course; hence, the chances of this particular client's succeeding in college are considerably poorer than average. The counselor's absolute statement is not in keeping with the fact that some persons of 105 I.Q. are graduated from college. In the case of the second statement, the counselor has become so accustomed to dealing with test scores as absolutes—as 'facts' rather than symbols—that he has confused 'interest' with 'abilities.' This is a very common error.

There are a number of reasons for the spurious charm and attraction which test scores have for counselors. A test score has a nice, round sound of finality, and the counselor who is seeking 'the answer' to his client's problems rather

than attempting to aid him to make his own adjustment all too easily finds 'the answer' in the 'right' score on the 'right' test.

Tests Can Be Misleading

TEST MAKERS and publishers are in part responsible for this sort of shadow-play. Tests and scales by their very titles put forth not-too-subtle, unwarranted claims to measure traits, interests, aptitudes, personality deviations, and abilities. Although test authors have in some instances shown proof that some of these traits do exist and that their tests can measure them, they have been less able to demonstrate operationally the nature of the traits which are being measured. Scientifically this is unfortunate, because scores made on the tests thus lack meaning in relation to the social environment. Hence, they should be used with caution (if at all) in classifying or predicting the behavior of an individual.

Unfortunately, it is easier, cheaper, and quicker to run reliability studies on a psychological measuring instrument and validate it with other tests (which were probably validated with still other tests) than to validate a test with life situations. But the demand for tests is so great that they are rushed into print without sufficient validation, and are bought by those who are more eager to believe than to doubt.

The general semanticist, however, is not misled by test titles and misleading claims to validity. Before he selects any test as applicable to a client's life situation it must be able to yield scores which have meaning in terms of human behavior, and not in terms of some internally consistent, abstract test-world which bears no measurable, functional relationship to the world of reality.

The General Semanticist

GENERAL semantics recommends itself as a counseling tool because it enables the counselor to become a more effective agent to help the client to use his own resources in achieving adjustment. Because the counselor disciplined in general semantics realizes that no two persons interpret similar events and environmental phenomena in a similar manner, he is cautious about unwarranted generalizations or arbitrary classifications and endeavors to discover how each client interprets his environment. He recognizes that individuals tend to evaluate and react to occupations and other phenomena of symbolic import in terms of more or less emotionalized 'signal reactions' or 'stereotypes.' Because he is aware of this tendency he is careful in preparing his client semantically before discussing occupational information or test scores.

The semantically oriented counselor avoids using emotionally charged words in discussing a client's abilities, particularly when there is danger of breaking down his psychological defenses. A counselor who is trained in general

semantics has a healthy, scientifically grounded skepticism with respect to psychological tests and their scores. If he uses them at all, he does so in terms of their operational meanings, and he never confuses a test score with the level and kind of behavior it is supposed to symbolize.

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A single illustration of how ignorance and vindictiveness, born of prescientific modes of thought, operated disastrously in our management of international affairs may be drawn from the peace settlement following World War I. . . . . Keynes' book, *The Economic Consequences of Peace* (1920), described with remarkable accuracy the course of events destined to occur for the next two decades. These consequences were known to all informed people. Why, then, did the peacemakers proceed as they did? . . . The situation has been well described by H. G. Wells as follows: 'These people don't know anything about the business they have in hand. Nobody knows very much, but the important thing to realize is that they do not even know what is to be known. They arrange so and so, and so and so must ensue. They are so unaccustomed to competent thought, so ignorant that there is knowledge, and of what knowledge is, that they do not understand that it matters.'

George A. Lundberg, *Can Science Save Us?*

RICHARD BAXTER:
Directions Against Intolerance

MASON G. DALY*

'THE UNIVERSAL wars about words that take up and corrupt mankind'[1] deeply concerned a Presbyterian divine of the seventeenth century. Richard Baxter of England, who lived from 1615 to 1691, has long been reverenced by the religious world for his doctrine of tolerance in a time of religious intolerance and confusion. This cleric wrote and spoke against the suicidal blindness of the established Church (under the Stuarts) which imprisoned thousands, split ears and noses, made family prayer a thing for persecution. He wrote and spoke, again in protest, when Puritan violence was climaxed with the beheading of Charles I and Archbishop of Canterbury, Laud. Baxter hated fanaticism in any form; consequently he hated 'obscurity and evasion in language'[2] which served the dogmatists and intensified the bloody religious conflict of his time.

Baxter was actually a moderate non-conformist. He was classed as a Presbyterian because he rejected the English Episcopacy in its dogmatic form. His ministry lasted nineteen years, mainly at Kidderminster, in Scotland, where a statue erected to him stands today. The rest of his life was full of strife. Not only the Puritan civil war (during which he served as chaplain in the parliamentary armies) interrupted his ministry, but in 1662 he was prohibited from preaching, and until the indulgence act of 1687 he was under ceaseless persecution. He could not safely maintain a permanent home for 29 years of repeated arrests, fines, and imprisonments.[3] It is not surprising to find a plea for tolerance and understanding in the writings of Baxter.

In his preaching and voluminous writings (168 separate works exist[4]) Baxter made his 'plea for the authority of the Scriptures, unfettered by dogmatic human explanations,'[5] and a plea for tolerance between orthodoxy (Anglican) and liber-

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[1] Richard Baxter, *The Reasons of the Christian Religion* (date and publisher obscured), 111.

[2] *Autobiography of Richard Baxter* (London 1931), xvi.

[3] Frederick Powicke, *The Reverend Richard Baxter Under the Cross* (London 1927) has a full treatment of Baxter's persecution.

[4] A complete chronological listing of his works appears in the back of volume II of the *Life and Times of Richard Baxter* by Rev. William Orme (London 1830).

[5] Powicke, *op. cit.*, 233.

alism (from Presbyterians to Anabaptists). He also tried to show a way to a degree of tolerance between papists and protestants.

Baxter gave 'directs' to these religious contenders in an effort to minimize their conflict. In so doing he described some errors held by modern general semanticists to be the basis of non-survival behavior in society. It is with these 'directions against error' that this paper is concerned.

THE IMPORTANT sources of these 'directs' are *The Practical Works of Richard Baxter,* a four volume collection first published in London in 1830, and the preface to the second part of *The Saints' Everlasting Rest,* by Baxter, which first appeared about 1650. (The latter may also be found in Book III of the *Practical Works*).

In Chapter VII of *Practical Works* appears the 'Directions for the Discovery of the Truth Among Contenders, and the Escape of Heresy and Conceit (more near and particular directions against error).' The first four directs will be quoted here in part because they show Baxter's thinking leading up to the directs which are of greater interest to the general semanticist.[6]

> DIRECT I. Begin at the greatest, most evident, certain, and necessary truths, and so proceed orderly to the knowledge of the less, by the help of these. . . . If you begin with those truths which spring out of greater common truths, and know not the premises, while you plead for the conclusion, you abuse your reason, and lose the truth and your labor both: for there is no way to the branches but by ascending from the stock.
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> DIRECT II. The first two things which you are to learn are, what man is, and what God is . . .
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> DIRECT III. Having soundly understood both these and other principles of religion, try all subsequent truths hereby, and receive nothing as truth that is certainly inconsistent with any other truth: but yet when two dark or doubtful points are compared together, it is hard to know which of them to reject.
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> DIRECT IV. Believe nothing which certainly contradicteth the end of all religion.[7]

With Direct V, Baxter's advice becomes more exact and begins to deal with the conflicts that arise out of language — conflicts which general semanticists now talk of in terms of 'inferential behavior,' 'identification,' 'intensional thinking,' 'projection.' In this direct, Baxter seems to be cautioning contenders to distinguish between what are dogmas and what are facts —'revealed and unrevealed.'

> DIRECT V. Be sure to distinguish betwixt revealed and unrevealed things; and before you dispute any question, search first whether the resolution be revealed or not . . . and when some things unrevealed are mixed in the controversy, take out those and lay them by, before you go

[6] The spelling is that of the 1830 edition.

[7] *Practical Works of Richard Baxter,* 4 vols., (London 1830), I, 592-593.

any further, and see that the resolution of the rest be not laid upon them, nor twisted with them, to entangle the whole in uncertainty or confusion.[8]

The assumption that a common term is being used by one contender exactly as it is being used by the other (projection) is seen by Baxter to be one of the most vicious and wasteful sources of conflict. Direct VI demonstrates his appeal for understanding *first*.

> DIRECT VI. Be a careful and accurate (though not a vain) distinguisher; and suffer not ambiguity and confusion to deceive you. Suspect every word in your question, and anatomize it, and agree upon the sense of all your common terms, before you dispute with any adversary. It is not only in many words, but in one word or syllable that so much ambiguity and confusion may be contained, as may make long dispute to be a vain and ridiculous rangling. Is it not a ridiculous business . . . to hear men dispute, Whether Christ died for all; when by 'for' one man meaneth 'for the benefit of all,' and another means 'in the place or stead of all,' or 'for the sins of all as the procuring cause, &c.?' Yet here is but a syllable to contain this confusion! What a tedious thing is it to read long disputes between many papists and protestants, about justification, while by justification one meaneth one thing, and another meaneth quite another thing. He that cannot force every word to make a plain confession of its proper signification, that the thing intended may be truly discerned in the word, he will deceive himself and others, with a wordy, insignificant dispute.[9]

The next direct contains a special caution in the use of metaphors.

> DIRECT VII. Therefore be specially suspicious of metaphors; as being all but ambiguities till an explanation hath fixed or determined the sense. It is a noisome thing to hear some dispute upon an unexplained metaphorical word, when neither of them have enunciated the sense, and when there are proper words enow.[10]

That the map is not the territory, the word is not the object, is essentially the argument in directs VIII and IX. Baxter admonishes contenders, in essence, to fit their maps to their territories, their words to their objects.

> DIRECT VIII. Take special notice of what kind of being your inquiry or disputation is, and let your terms be adapted and interpreted according to the kind of beings you dispute of. . . . When you dispute of divinity, policy, law, war, &c., you must not use the same terms in the same sense, as when you dispute of physics, or metaphysics.
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> DIRECT IX. Be sure in all your disputes that you still keep distinguished before your eyes, the order of being, and the order of knowing: that the questions *de esse* lying undetermined in your way, do not frustrate all your dispute about the question *de cognoscere*.[11]

[8] *Ibid.*, I, 593.
[9] *Ibid.*, I, 593.
[10] *Ibid.*, I, 593.
[11] *Ibid.*, I, 593.

The direct to follow is in accord with much of the modern general semanticists' talk about 'patterns of orientation.' The Baxter dichotomy of 'verbal *vs.* material or real' has a contemporary ring.

> DIRECT X. Be sure when you first enter upon an inquiry or dispute, that you well discover how much of the controversy is verbal *de nomine*, and how much is material *de re*, and that you suffer not your adversary to go on upon a false supposition, that the controversy is *de re*, when it is but *de nomine*. The difference between names and things is so wide that you would think no reasonable man should confound them: and yet so heedless in this point are ordinary disputers, that it is the usual thing to make a great deal of stir about a controversy before they discern whether it be *de nomine* or *de re*. Many a hot and long dispute I have heard, which was managed as about the very heart of some material cause, (as about man's power to do good, or about the sufficience of grace, or about justification, &c.) when the whole contest between the disputers was only or principally *de nomine*, and neither of them seemed to take notice of it. Be sure as soon as you peruse the terms of your question, to sift this thoroughly, and dispute verbal controversies but as verbal, and not as real and material. We have real differences enow; we need not make them seem more by such a blind and heedless manner of disputing.[12]

ONE OF THE bitterest persecutions that Baxter as a non-conformist had to endure came when he was tried and sentenced to a prison term in May of 1685 for his *Paraphrase on the New Testament*.[13] The charge ultimately formulated was that Baxter, under pretence of interpreting certain passages in the New Testament, was covertly attacking the bishops and rulers of his own day. Baxter, in his published 'General Defense of my accused writings called seditious and schismatical,'[14] shows how by such a method he would be condemnable if he said the Lord's prayer or used the Book of Common Prayer, for he would, of course, be referring to the rulers of his time when he prayed 'Deliver us from evil,' or 'Forgive our enemies, persecutors, and slanderers' and 'turn their hearts.'

Baxter's imprisonment, thus, ironically indicated the fettering effect of dogmatic explanations of the Scriptures. That effect had been attacked by this cleric much earlier (1650) in his *Saints' Everlasting Rest*. In this earlier work he gives advice to 'unbelievers and anti-scripturists.' He speaks of the conflict which comes when the ignorant fail to recognize the changing nature of words, the projection which results from the failure, and especially the projection which results inevitably from translation.

[12] *Ibid.*, I, 593.

[13] This work was published in 1685, publisher unknown. A full account of the trial and imprisonment is given by Lord Macaulay in his *History of England* (Philadelphia 1873), I, 450-451.

[14] *Reliquiae Baxterianae* (London 1696), App. VIII, 124.

Another reason of those men's unbelief, is the seeming contradictions that they find in the scriptures. . . . Let me say this much: It is merely through ignorance that Scriptures seem contradictory. I thought myself once that some places were hardly reconcilable, which now I see do very plainly agree: plainly, I say, to them that understand the true meanings of the words.

There are no human writings but lie open to such exceptions of the ignorant. It is rather a wonder that the Scriptures seem not to you more self-contradicting, if you consider but,

1. That they are written in another language, and must needs lose much in translation, there being few words to be found in any language which have not divers significations.

2. That it being the language also of another country, to men that know not the customs, the situation of places, the proverbial speeches, and phrases of that country, it is impossible but many words should seem dark or contradictory.

3. Also that the Scriptures are of so exceeding antiquity as no books else in the world are like them.

Now, who knows not that in all countries in the world, customs alter: and proverbial speeches and phrases alter; which must needs make words seem dark, even to men of the same country and language that live so long after. We have many English proverbs, which if in after-ages they should cease to be proverbs, and men finding them in our writings, shall construe them as plain speeches, they would seem to be either false, or ridiculous nonsense. The like may be said of alterations of phrases. He that reads but Chaucer, much more elder writers, will see that English is scarce the same thing now, as it was then.

Though the sacred languages have had no such great alterations, yet by this it may appear, that it is no wonder, if to the ignorant they seem contradictory or difficult. . . . Methinks such frail and shallow creatures, as all men are, should rather be so sensible of their own incapacity and ignorance. . .[15]

Baxter's writings are packed with directs for Christians, of all ages and classes. As late as 1689, two years before his death, he was trying to systematize his directs against error, and thus to make possible greater Christian love and understanding. Knowledge to him was a means to a higher end — the production of the love of God. He asked the question: 'What is the great plague and divider of the Christian world?' He would answer: 'Falsely pretended knowledge and faith are the great plague and divider.'[16] He wrote a chapter on the 'Advantage of a Suspended Judgment,' and gave 20 directs for the cure of pretended knowledge, or self conceit.[17]

To demonstrate how 'it is one thing to assert uncertainties, and another to anatomize, and distinctly and methodically explain. . .' Baxter established what

[15] From Baxter's preface to the second part of *The Saints' Everlasting Rest* (London, preface in 1928).

[16] *Practical Works*, IV, 580.

[17] *Ibid.*, IV, 591-592.

he called SUBJECTIVE CERTAINTY and OBJECTIVE CERTAINTY. In reference to his own life and writings, he said, 'I never persuaded any man to write or say no more than all men certainly know already. Subjective certainty is as various as men's interest, where no two are of a size; and objective certainty must be tried by evidence, and not by other men's consenting to it.'[18] Diverse subjective certainties, to Baxter, were the results of men looking for the confirmation of already conceived hypotheses, or for arguments to justify established systems. Today this is called 'intensional behavior.'

THERE IS NO direct evidence that a contemporary of Baxter, John Locke, in writing *An Essay Concerning Human Understanding,* was influenced by this cleric's writings. There is no evidence, to the knowledge of this writer, that the directs of Baxter subsequently influenced any language study. It is conceivable, however, because of the enduring popularity of his works, that his directs minimized theological and clerical conflict over many generations. To find evidence of this popularity, it is only necessary to turn to an essay on 'The Genius, Work, and Times of Richard Baxter,' in the first pages of Volume I of the 1830 printing of the *Practical Works.* This essay lists a host of British bishops and clerics, as well as continental figures, who had admitted the influence of Baxter to that date. It is also indicated that John Wesley was advised to include Baxter in his list of books for young preachers. This same source reveals that Dr. Johnson told Boswell, when asked what of Baxter's works to read, 'Read any of them; for they are all good.'

The combined works were published twice, in 1830, and again in 1845. Baxter's *Autobiography* came out in various editions and with various editors in 1691, 1696, 1702, 18? (issued by the American Tract Society), 1910, and 1925. Three separate works, *Directions to Slave Holders, Dying Thoughts,* and *Petitions for Peace,* each had three editions before 1850.

[18] *Ibid.,* IV, 563. Also on this page is a complete schematic diagram of his objective and subjective dichotomy.

> Any kind of prejudice, racial or not, tends to result in a sort of functional deafness—'I'd never listen to that guy. He can't tell *me* anything!' In fact, it works both ways. The prejudiced individual not only refuses to listen; he also on occasion refuses to talk.
>
> Wendell Johnson, *People in Quandaries*

✡ DISCUSSION ✡

*MEDICAL PSYCHOTHERAPY AND GENERAL SEMANTICS**

LOUIS PAUL, M.D.

THREE YEARS ago I listed (Paul, 1945) four published articles[1] dealing with medical psychotherapeutic applications of general semantics. Today the list remains unchanged, unless there is added to it a case report (LeShan) dealing with an instance of what was called paranoid schizophrenia but which I would label differently.

Of course there have been numerous expositions of general semantics in psychiatric journals.[2] Here I am focusing on the paucity of published reports of medical clinical applications. This situation was well summarized by Dr. Nolan D. C. Lewis, director of the New York State Psychiatric Institute, when he wrote:

> The methods of extensional analysis used in general semantics could be utilized with profit in the field of mental hygiene, where they should have a favorable effect in the psychoneuroses and in the early stages of some psychoses in which muddled thinking characterizes the nucleus of the disorder, but their efficiency when applied as psychotherapy for the treat-

* Presented at the Conference on General Semantics, Northwestern University Medical School, Chicago, September 18, 1948.

[1] D. G. Campbell, 'Neuropsychiatric Foundations and Clinical Applications of General Semantics,' *Papers from the Second American Congress on General Semantics* (ed. M. Kendig, Chicago 1943). D. G. Campbell and C. B. Congdon, 'A Report on the Psychotherapeutic Application of General Semantics,' *General Semantics: Papers from the First American Congress for General Semantics* (ed. H. Baugh, New York 1938). John Lynn, 'Preliminary Report of Two Cases of Psychopathic Personality with Chronic Alcoholism Treated by the Korzybski Method,' *ibid.* J. C. Mergener, 'General Semantics and the Problem of "Rapport" in Psychiatry,' *Papers from the Second American Congress on General Semantics.*

[2] *Cf.* D. G. Campbell, 'General Semantics: Implications of Linguistic Revision for Theoretical and Clinical Neuropsychiatry,' *Am. J. Psychiat.*, 93.789 (1937); 'Neuro-linguistic and Neuro-semantic Factors of Child Development,' *Ztschr. f. Kinderpsychiat.*, 8.33 (1941); A. Korzybski, 'Neuro-semantic and Neuro-linguistic Mechanisms of Extensionalization,' *Am. J. Psychiat.*, 93.29 (1936); 'The Science of Man,' *ibid.*, 93.1343 (1937); 'General Semantics, Psychiatry, Psychotherapy and Prevention,' *ibid.*, 98.203 (1941).

> ment of full-blown mental disorders does not seem to have been established, and more facts are needed.

Why there have not been more reports of medical psychotherapeutic applications of general semantics, I do not know, but I should like to suggest some of the factors, as I see them, which are involved in any answer to this question.

First, however, I should like to note that I have taken care in these remarks to confine myself to *medical* psychotherapeutic applications. Psychotherapy, as a term, has come to cover many activities by many differently trained practitioners. It is enormously difficult to draw a line between the work of the psychiatrist, the clinical psychologist, the social worker, the personnel counselor, etc.

While there is no doubt that the methods and goals of each of these disciplines overlap, there are differences also. Recently, for example, on re-reading Johnson's *People in Quandries,* I realized that I encountered very few cases of the type that he dealt with, so that I was unable to employ the methods he describes. So I think we should be careful in this conference to specify as fully as possible the context in which the term psychotherapy is employed.

To return to the dearth of reports of medical therapeutic applications, at least these factors are involved:

(1) Whether general semantics is a psychotherapy by itself;
(2) The relation of general semantics to freudian psychoanalysis; and
(3) Recognition of the psychotherapeutic aspect of 'transference.'

It has not been clear to me until recently whether general semantics was a psychotherapeutic system by itself, or whether its formulations assisted in the application of other psychotherapeutic methods. The aura of psychotherapeutic and psychosomatic benefit which surrounds Korzybski's seminars, and Korzybski's statements about the disappearance of symptoms after general semantics training contributed to the confusion.

Lately, however, Korzybski has resolved this point by maintaining that his system should not be called 'psychotherapy' (Lichtenberg). His system, he says, is concerned with training in scientific methodology and epistomology which alters semantic (evaluational) reactions. Application of the system has therapeutic results but rigorously speaking, it is not in itself a system of psychotherapy.

As to psychoanalysis, perusal of Korzybski's chapter on 'Identification, Infantilism, and Un-sanity versus Sanity' and all the references in *Science and Sanity* to Freud and to psychotherapy makes it appear to me that Korzybski incorporated, with modifications, many aspects of freudian psychoanalysis in his non-aristotelian system.

According to Korzybski (p. 536),

> In a non-aristotelian system the fundamental postulates of the system-function which underlies all psychotherapy have been accepted, although

they have been vastly enlarged to comply with the known facts and scientific requirements of 1933.

Freud was scientific in his day but his determinism was two-valued, *i.e.*, aristotelian. Therefore it is necessary to revise freudian psychoanalysis along non-aristotelian lines. (Korzybski is not clear as to whether he found freudian psychoanalysis to be an elementalistic or non-elementalistic discipline. My own feeling is that Freud tended to be non-elementalistic although many of his followers have not.)

THE CHANGES and new emphases in the fields of psychoanalytic theories and applications since 1933 do not appear to have been recognized by Korzybski. At any rate he has not publicly acknowledged the work of French, Alexander, Kubie, Masserman, Dunbar, Kardiner, Saul, Ruesch, Kluckhohn, Mowrer and others, whose work represents a major development in psychoanalytic formulations. Korzybski has noted and commended the work being done in psychosomatic medicine, but without recognizing that these psychosomatic considerations in medicine were initiated and mostly developed by psychoanalytic psychiatrists, since these psychiatrists were the only ones with a *dynamic* theory of human behavior, no matter how inadequate that theory might be (Paul, 1947).

I think it must be recognized that most psychoanalytic practitioners are naive concerning methodologic considerations. So it is not strange if a reviewer in the *Psychoanalytic Quarterly* is critical of general semantics. Three other reviewers in the same journal who were favorable towards general semantics were aware of scientific methodology, and one went so far to to declare that psychoanalysis was a department of general semantics, and conversely, that 'there is nothing in general semantics as a methodological system which runs counter to anything the psychoanalysts have discovered' (Eisenbud).

It is concerning 'transference' that I believe the psychoanalytic critics have detected a major lack of awareness on the part of general semanticists. In *Science and Sanity* 'transfer,' as a semantic (evaluational) process, is included in the wider process of 'identification.' As a mechanism transference was recognized. However, the tremendously potent psychotherapeutic implications of the transference did not appear to have been explicitly recognized by Korzybski. I once asked Korzybski about transference and gave a description of the phenomenon. He replied simply that in the seminar 'whatever happens, happens.'

Alexander and French and their associates at the Institute of Psychoanalysis, Chicago, concluded in their book *Psychoanalytic Therapy* that it is the manipulation and utilization of the transference relationship between patient and physician which produces the benefits of psychotherapy. Transference is the core of psychotherapy.

In 1934 a reviewer (Reiner) of *Science and Sanity* in the *Psychoanalytic Quarterly* who was otherwise favorable, declared that Korzybski seemed un-

aware of the phenomenon of transference. This still seems to be so today, although to be strictly correct, it is the therapeutic aspect of transference which is not recognized. If it were, Korzybski would attribute benefits not so much to the formulations presented at his seminars as to the transference present there.

It is precisely because of this therapeutic aspect of transference that the patient inevitably acquires values, evaluations, and modes of reaction from the physician. This occurs explicitly and implicitly, and here it seems to me, general semantics plays a crucial role. General semantics training provides the physician with theories and methods of evaluation which are strictly modern, scientific, and functional to replace his own unconscious and unformulated system of evaluations.

I hope that out of this conference will come, at this time or later, reports of *how* general semantics is actually being used in medical psychotherapeutic endeavors. I am not able to say how I use general semantics because I have been influenced by non-aristotelian considerations and training without being consciously aware of the ways it has shaped my approach to patients, as it undoubtedly has. I have not attempted using general semantics as a therapy itself because I did not know how to do it, and now I realize, as I have just remarked, that it is not a therapeutic system. It is more basic than that.

As I see it for medical psychotherapy, general semantics represents (1) a way to get a more efficient communication between physician and patient, and this means on all levels, the 'unconscious' included — the essence of transference, to use the old language, is 'unconscious' speaking to 'unconscious'— and (2) 'factors of sanity in physico-mathematical methods' (Korzybski, 1948, p. vi) which lead to non-aristotelian systems of evaluations for both physician and patient. As Korzybski insists, modern physico-mathematical methods are prior to any science, psychiatry and psychodynamics included.

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DISCUSSION

HORACE BUSHNELL RECONSIDERED

SHERMAN PAUL *

MR. MINNICK has performed a service for students of general semantics by indicating the presence of the 'language problem' in the past.[1] The common presumption is that this problem is peculiarly one of our own time. Students of language often feel that the past floundered on the inadequate structural assumptions of 'metaphysics' and thus overlook the intense forces leading to semantic change and the considerations of language in the search for 'truth.' In our specialized researches this study of semantics in history has been appropriated by students of the history of ideas and of historical semantics.[2] By turning to the past, Mr. Minnick has widened the perspective of our studies. But in returning to the past, Mr. Minnick has failed to see the significance of the historical 'forces' which focused the needs of those times on language and meaning. For in spite of all his apposite quotations on language, his easy identification of Horace Bushnell with general semantics is non-historical, a misapplication of ideas pulled from the context of a concern with language fundamentally dissimilar to our own.

Mr. Minnick has turned to an important figure in an important period of our history: important, because this period, spreading backwards and forwards from a center in the year 1849, closely parallels our own in its concern with metaphysical and semantic problems. Unfortunately, Mr. Minnick places Horace Bushnell among those whose lineal descendants today do not understand general semantics. To demonstrate this I propose to sketch the sources of Bushnell's views on language and their place in a framework of the similarities between 1849 and 1949.

In a sense, 1849 was the beginning of a century of scientific optimism. Sharing this optimism, Bushnell was among those who stood for a language rooted in the exact, empirically demonstrated relations of fact. Like most of the men of his day—who today would object to the limitations of the canon of scientific 'meaning'—he founded his hope for language on the optimistic prospect that the natural and physical sciences would accurately map the relations of the physical universe. But this mapping was only a preliminary to Bushnell's purpose: that a language founded in fact would make for a more accurate *symbolic* language of the 'mind' and 'spirit,' of psychology, metaphysics and theology. The assumption behind his emphasis on a scientific basis

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[1] 'Horace Bushnell: Precursor of General Semantics,' *ETC.*, 5.246ff. (1948)

[2] For the most recent studies of the leaders in these fields see Arthur O. Lovejoy, *Essays in the History of Ideas* (Baltimore, 1948) and Leo Spitzer, *Essays in Historical Semantics* (New York, 1948).

for language was one widely held by the Transcendentalists here and abroad; it was the assumption of the 'identity' of the natural and spiritual universes, an 'identity' of the laws of 'matter' and 'mind' which this teleological-minded generation needed to hold back the force of Humean skepticism and rising materialism. This assumption was the content of the doctrine of 'correspondences' usually attributed to Emanuel Swedenborg whose influence was widespread in America and on the Continent at this time. But it can be traced back to the structure of Plato's cosmology.

In *The Republic,* Plato twice bisects the line of knowledge, making the primary dualism that of the visible world and the intelligible world, the world of shadows and the world of truth or Ideas. The history of this metaphysical assumption of the relationship, identity, or correspondence between the phenomenal world and the noumenal world—to employ Kant's epistemological distinctions—need not concern us here. One of the best examples of the generative idea and of time-binding, it passes down the centuries in the works of the Neo-Platonists, the Cambridge Platonists, the Schelling school of German Idealists, Coleridge and Carlyle in England, to its chief American adapter, Ralph Waldo Emerson. What is important is that this assumption is central to Idealism, and that the visible or phenomenal universe of physical science is employed, only because of its inescapable presence to our senses, as the platform from which to spring into the spiritual universe. Physical science to the Idealist is merely the lever with which to pry significance from the spiritual world. The world of science is not the 'real' world to men like Bushnell: as an objective world it is *there,* but it is to be used to overcome the very limitations which it imposes on the discovery of truth in the 'higher' universe of the mind or spirit. The language theory that Bushnell proposes recognizes the limitations of science and in turn imposes limitations on science.

IT IS CLEAR that Bushnell had this secondary role of science in mind, for his preliminary dissertation on language in *God in Christ* was intended to show, as the very title of the book indicates, the relation of language to 'thought' and 'spirit.' He was anticipating the attack of theological literalists, by showing that 'truth' can only be pointed to by the symbolic or suggestive use of language, and that, as Mr. Minnick rightly shows, symbolic language, being at a second remove from the literal language of science, isn't the thing, but the word naming the thing—that is, a sign—used once again as a symbol to suggest a higher invisible 'thing.' Only in this limited sense can Bushnell be called a precursor of general semantics; his assumptions and the uses to which he gives language the highest claims are not those of general semantics.

To prove that the higher uses of language were valid, Bushnell developed an organic theory of language. He says that 'Nature having them in her own bosom, existing there in real grammatical relations, not only gives us the

words, but shows us how to frame them into propositions.'[3] And man, in the natural world, is able to name things because he is framed for language by God. (13) In this way, Bushnell introduces his assumption of the analogy or identity of the natural and spiritual universes, for this is possible

> only as there is a logos in the outward world, answering to the logos or internal reason . . . there is a vast analogy in things, which prepares them, as forms, to be signs or figures of thoughts, and thus, bases or types of words. Our bodily mechanism ['the body is a living logos, added to the soul, to be its form, and play it forth into social understanding'], and the sensible world we live in, are in fact made up of words, to represent our thoughts and internal states. (21-22)

Once he had assured himself that the body and mind and the mind and matter were in accord, he could propose a theory of signs. By sign he meant the name which man originates through his supposed harmony with things, a name which fits a thing in the similarity of its sound, or because man feels or senses some fitting relationship between the sound he mutters and the thing he sees. As a sign the word is merely a pointer in a 'physical language,' and remains serviceable, adequate, unequivocal. Its accuracy can be adjusted to the available empirical evidence. But when the *thing* is felt to represent a thought or feeling, or when the object of one's thought is not to be pointed to, the sign must be employed as symbol; and it is to this 'higher' end that Bushnell applies his groundwork. As symbol, the sign or name of a thing can be used only figuratively *to suggest,* as 'hints, or images, held up before the mind of another, to put *him* on generating or reproducing the same thought.' (46) And although a word never 'exactly measures its idea' (48) the problem of communicating spiritual thoughts is solved by returning once again to the harmonious structure of the universe: 'All things out of sense get their names in language through signs and objects in sense that have some mysterious correspondence or analogy, by which they are prepared beforehand to serve as signs or vehicles of the spiritual things to be expressed.' (25-26) Bushnell not only uses 'correspondence' to assure the adaptability of physical language to spiritual thought, but uses the possibility of such uses of language to prove the divine harmony of his universe.

When Bushnell turns to science he emphasizes its mapping function. Science is not the instrument of the spiritual world, but a preliminary tool limited to the exploration of the 'literal' physical universe.

> It is, that physical science, leading the way, setting outward things in their true proportions, opening up their true contents, revealing their genesis and final causes and laws, and weaving all into the unity of a

[3] *God in Christ* (Hartford, 1849), 28. All subsequent citations will be from this edition and inserted in the text.

> real universe, will so perfect our knowledges and conceptions of them, that we can use them, in the second department of language [as symbol of spirit], with more exactness. (98)

BUSHNELL, as a 'psychologist,' was interested in a more exact language of mental operations and of spiritual experiences, which, he thought, could only be referred to by something with an analogous structure in the physical world. But, unlike the behaviorist or positivist, he would not have limited meaning to 'physical language.' To reduce the scope of meaning to the 'empirically' verifiable, to brand poetry and metaphysics as effusion, would have seemed to Bushnell an arbitrary blindness and narrow restriction, limiting discourse to the prosaic level of daily survival. Although such a language might serve for everyday prudential life, unless it could be transformed into a symbolic language opening up the spiritual universe of man's highest aspirations, it was mere sound and fury signifying nothing.

The problem, then, that faced Bushnell was that of the limits of meaning. In its particulars this problem has its counterpart today, for the determination of the scope of meaning is tied to metaphysical assumptions about the nature of the 'real' universe and how we can know it. Bushnell was aware of the mystical direction of his language theory (95) and could not have compromised it with theories limiting the function of language to description. For although language was man-made and originated for the purposes of use, this very adaptability to man's needs showed it miraculous. Language, by making nature mediate man's highest needs, unfolded the 'self' and explored the consciousness: it was a miracle of experience. And the analogous structures of grammar and the relations of things, which we today find epistemologically complex, Bushnell took for granted as perhaps the most significant sign of God's providence and intention for us to explore the creation. But although Bushnell's orientation is idealistic and different from that of general semantics, he would have found room in his theological liberalism for the aim of general semantics. The 'manhood of humanity' he would have found idealistic enough.[4] Its vehicle of scientific description, on the contrary, he would have found too 'physiological,' too materialistic. And the language of science, far from its desired unity today, would have jarred his sense of a harmonious universe. He approved science in a spirit of hope, because science in 1849 was revealing a new universe which he felt had application to the highest aspirations of man. When the spirit of science breathed cold it was shut out: In 1836, Alexander Bryan Johnson's *A Treatise on Language* appeared, intended incidentally for the same end as Bushnell's dissertation—to mollify theological dispute—but its

[4] See Kenneth Burke, *A Grammar of Motives* (New York 1945), 238 ff., for a penetrating analysis of general semantics.

positivist propositions about language were not widely acknowledged. The *Treatise* could have been used by Bushnell's numerous opponents to silence him, but Johnson's limitations on language-use were less desirable because they were less 'liberal'; the *Treatise* would have gagged the great majority who believed in the spiritual as revealing the highest hopes of man. In 1849, the problem of language, like psychology, still had its theological animus. Science was a skeleton, to be fleshed in spirit by the living man. Reduce symbol to sign, in this scheme, and you deflate the universe.

BUSHNELL would find the world of 1949 deflated and ossified. He would look back and find that Johnson's *Treatise* and his own dissertation marked the extremes of the problem of meaning in his day and ours. He would place the positivists (take A. J. Ayer as representative) at the center of a circle representing the scope of meaning, as 'literalists' and 'logickers.' He would take refuge on the rim of the circle with the poets and myth-seekers.[5] If he retained his *faith* in science, he might find a new and acceptable direction in the 'scientific' expansion of meaning undertaken by Cassirer and Susanne Langer. Their emphasis on the role of symbol refines his own. And in Dorothy Emmet's explication of the ways of metaphysical thinking he would find the consideration of the analogical bases of thinking still with us—that man today still wants to project significance into the universe.[6] This is the central fact for thinkers like Bushnell: human faculties and desires exist only to prove the existence of their objects; that man is 'made' to find his universe meaningful, and he will do so, even though science, today his foremost projection of significance, fails him.

LOGICAL IMPOSSIBILITY?

EDWARD MACNEAL

ONE OF THE verbal traps frequently warned against by writers on general semantics is that of 'elementalism.' Readers are urged to be as 'non-elementalistic' in their approaches to problems and discussions of events as possible, where by being non-elementalistic is meant 'not splitting verbally that which cannot be separated actually.'

Attempts to solve problems may be unproductive because the approach to them is elementalistic. Verbal separations may be made which do not correspond

[5] See Philip Wheelwright, 'Poetry, Myth, and Reality,' *The Language of Poetry* (ed. Allen Tate, Princeton 1942), 3-36.

[6] Dorothy M. Emmet, *The Nature of Metaphysical Thinking* (London 1945). Professor Emmet is a student of A. N. Whitehead.

to any ability to separate the things referred to in fact, such that, for example, the study of a plant disease may be separated from considerations of the plant, the soil, the climate, the farming practices, although actually the disease may exist in this context. Human diseases may be verbally separated from the sick: it has been said that some doctors treat the disease rather than the patient. Such an approach is elementalistic.

Now, although it may be easily understood that the separations of mind and body, space and time, intellect and emotion, are examples of elementalism and that elementalisms are to be conscientiously avoided, a way of going beyond these examples in applying the information to other events is not always apparent. It may even happen that elementalism becomes a synonym for 'limited' while non-elementalism comes to mean 'comprehensive.' A few steps further and the terms may come to be used only as more sophisticated ways of saying 'bad' and 'good.'

This type of degeneration appears, perhaps, because it is only vaguely understood in the first place how the terms are to be applied. Speaking of elementalism and non-elementalism, moreover, can become absurd if the terms are not defined more completely and operationally. For instance, it can be maintained that all things in the world are interrelated and cannot be separated. It follows that any verbalism, any attempted solution to a problem, which does not include everything in the world is elementalistic. Non-elementalism which has been defined as 'not splitting verbally that which cannot be separated actually' now has no more important role to play than to label a logical impossibility.

However, if we define non-elementalism (or elementalism) operationally, we may find a more useful application for the term, and, moreover, bring the distinction into sharper focus. It happens that the crux of the matter is contained in the term 'separate.' Let us define this term roughly but operationally as follows: *Whenever one event has no noticeable effect on another event then we will say that the two events are separate.* If what a laboratory technician eats for breakfast has no noticeable effect on how his geiger counter operates, then the two events are separate. If it has an effect (radio-active breakfast cereal), then they are not separate and it might be wise to measure this effect.

Now, two events may clearly be separate in one context and not in another. Anaconda Copper and the people living in Montana are separate if one is considering the question, 'What is the percentage of red-headed people in Montana?' They are not separate, however, when investigating how well or why people are living in Montana. It would not be elementalistic to separate them in the first instance: it would be in the second.

Employing the terms as operationally defined may help bring about their more widespread use in methodology. As ready tools they may increase the number of those who see that elementalistic studies of processes and problems may be logical—in the same sense that the discussions and solutions of classical economics are logical—but that certain defects arising from elementalisms may be anticipated.

And, as a boon to social scientists, use of the terms might enable them to relax somewhat from their efforts to prove by argument that they are as scientific as physical scientists. They might merely state that the questions they ask are more difficult to handle non-elementalistically, which, it appears, could be amply demonstrated.

> Nobody will make bold to maintain that the meaning of a word can be gathered from dictionaries. A dictionary furnishes, at best, a general scheme in which the manifold actual significations a word admits of may be inserted. But the real meaning of a word appears when the word is uttered and functions in the human activity called speech. Hence we must know who says it to whom, when and where. Which indicates that meaning, like all things human, depends on circumstance. . . .
>
> What the word fails to say, circumstance mutely adds. Language is a text that calls for illustrations. The illustrations are furnished by the lived and living reality out of which a man speaks, a reality essentially unstable and fleeting, emerging and vanishing never to return. The real meaning of a word is not in the dictionary; it is in the instant. After twenty-five centuries of mental training to grasp reality *sub specie aeterni,* we must make a new start and develop an intellectual technique for detecting it *sub specie instantis.*
>
> JOSE ORTEGA Y GASSET, *Concord and Liberty.*

✯ BOOK REVIEWS ✯

Knowledge Doesn't Come in Pieces

EDUCATION FOR WHAT IS REAL, by Earl C. Kelley. New York: Harper, 1947. 112 pp. $2.00.

AT THE Hanover (N. H.) Institute, formerly the Dartmouth Eye Institute of Dartmouth Medical College, Dr. Adelbert Ames has, for several years, been collecting data on binocular vision. A series of demonstrations set up in connection with this work, beyond indicating some major inadequacies in current theories of vision,[1] apparently have significant bearing also on the nature of all our perception and on our ideas of reality itself.

Dr. Earl C. Kelley, who is Professor of Secondary Education at Wayne University, Detroit, spent ten weeks observing and studying the demonstrations at Hanover Institute and then wrote *Education for What Is Real.* Here, simply and patiently as for his fifteen year old daughter or Joe Doakes, he describes what he saw and felt at Hanover and applies his conclusions to the field of education. He recommends a drastic revision of current educational methods if our children are to benefit from the advanced knowledge of the human organism now available to scholars and social science technicians.

Before such a revision can occur generally, of course, many more people will have to meet and understand such ideas as these demonstrations indicate. Dr. Kelley's book, addressed to the general public, seems to me to be just the kind of introduction needed, and to deserve the widest possible attention.

To begin with, he gives a revealing list of the common assumptions underlying most educational methods today. It is assumed in our schools, Dr. Kelley says, that knowledge exists separate from and previous to learning, and that to have it is to be educated; that this 'knowledge' can be broken into fragments of subject matter which are absolute and can be handed intact from teacher to learner like pieces of pottery: that is, that a piece of knowledge will have the same meaning for a child that it has for the teacher, as in 'You heard what I said, didn't you?'

With this method of training, since the teacher furnishes the subject matter, he must also furnish the reason for learning; hence the wide use of incentives and punishments. Hence also an assumption to justify the last: that it is 'good discipline' for a child to be forced to learn what has no meaning for him.

It is further assumed that a child is not living, but is preparing for life; and that an answer is more important than the process of problem-solving. Recita-

[1] Adelbert Ames, 'Binocular Vision,' *American Journal of Psychology,* 59.333 (1946).

tion and grading are given more time than the work itself, which leads to the disturbing conviction that somebody else can and should evaluate what the work has meant to the child, that 'evaluation is an outside process.'

DR. KELLEY'S description and conclusions from the demonstrations at the Hanover Institute show the utter inadequacy of these assumptions. The demonstrations are factual in the sense that anyone may go, see, and test the conclusions for himself. As such, 'they furnish laboratory proofs of . . . what for long has been in the realm of conjecture and speculation.'

There it is shown that the clues by which we judge the size, shape, motion, and location of an object are not reliable. In the process of perception each person apparently selects as many of these clues as his experience and individual life-purpose indicate are necessary, combines them, and arrives at a sort of 'statistical average' upon which he acts. That average, like the life-expectancy table of an insurance company, 'is near enough right to be useful, but always wrong' in any particular case. It is an abstraction. But it attains a functional reality in relation to a person when he acts upon it. That relationship, between a person and what he selects from a scene to act upon, says Dr. Kelley, is what is real.

In a recent issue of *ETC.* there is a scholarly article by Dr. Russell Meyers on a similar theme.[2] Dr. Meyers, discussing this idea of reality, says, '. . . *what the individual takes to be "real" is a function of that to which he has acquired relatively adaptive behavior patterns.* Far from amounting to noumena which exist independently of the perceiver, *"reality" and "unreality" appear to involve the perceiver's own battery of sensori-motor experiences.*'

One of the demonstrations Dr. Kelley describes shows how useless 'intellectual knowledge' is to a person confronted with an unfamiliar situation. He only learns how to manage that situation slowly, by trial and error, by action. Dr. Kelley's remarks on his own and others' reactions to this failure of the 'intellect' and to the learning process are, like the rest of his book, whimsical, but patiently, stubbornly illuminating. He suggests here that living is a constant unfolding of such situations, and that the only education possible comes about through our efforts to deal with life as it opens before us.

It seems to me that he is also suggesting that because of a useful habit of perceiving clues in certain recurring patterns or order, we often assume that reality rests in the clues themselves. Then when our environment suddenly changes and the familiar pattern upon which we are accustomed to act is gone, we feel that our clues 'betray' us: the world is 'not real,' and we become angry, embarrassed, tearful, seasick, or eventually, 'insane.'

So, Dr. Kelley states, an educated person would appear to be the one who is able 'to relinquish what he has held, and build new habit patterns in keeping

[2] 'The Nervous System and General Semantics: II. "Reality and Unreality,"' *ETC.*, 6.27-38 (1948)

with new environmental demands.' The development of this sort of person calls for the experiential approach, for learning by trial and error in doing.

The school he now recommends, that would 'work *with* the observable forces [of a child's life and curiosity] instead of *against* them,' would no longer require that children learn long lists of abstractions, such as the multiplication table, cut off from all extensional meaning in the children's own lives. Dr. Kelley would use the project method of teaching, keeping knowledge in wholes; the children would work, not as isolated individuals, but as a group to plan as well as carry out the projects; the teacher, a member of the group 'who works at contriving experiences which will be educative,' would be source person and sympathetic tie with the adult world, but never the authoritative leader, never the one to furnish the purpose or take responsibility for the learning that goes on.

The mistake now made by most experimental schools, he believes, is that they still try to meet traditional standards of scholarship, but by using new methods. If children are learning to manage life itself, there will be some fragments of subject matter they will miss. He maintains there is no such thing as essential knowledge. But under his system some kinds of knowledge, such as reading and arithmetic, will become inevitable.

Education for What Is Real was written for teachers and parents everywhere. In the introduction Dr. Kelley says, 'If some of the ideas in the book seem a bit underdone, please remember that I had instructions [from Dr. Ames] to make it short and plain.' What flaws one may find in it seem to be covered by that apology, and I do not believe the main value of the book is in any important way disturbed by them.

GENERAL semanticists will be familiar with the concept that Dr. Kelley presents of reality as relationship between the observer and observed; with his explanation that reality, far from existing separately in the 'outside world,' apparently is defined only when that relationship is established by the observer's action; that our intellectual knowledge seems to be a set of abstractions more or less useful as we can give them extensional meaning from our active experience and life purposes. On the other hand, progressive educators will probably recognize as familiar his analysis of traditional teaching methods and his recommendations for their revision.

The importance of Dr. Kelley's contribution here seems to me to lie in his application of these demonstrable ideas of the learning process, or the process of living, to education, with such simplicity and conviction that his book should be of value not only to semanticists and educators, but to anyone concerned with the lives and growth of children.

JULIA SIEBEL

Northfield, Illinois

Exploring Unconscious Assumptions

THE PSYCHOLOGICAL FRONTIERS OF SOCIETY, by Abram Kardiner. New York: Columbia University Press, 1945. 500 pp. $5.

'IN THE MAIN,' Dr. Kardiner declares, 'the purpose of the book is to describe the operation of the social process by a technique which takes as its base line the mental and emotional equipment of the constituents of a society. Furthermore, it makes the special point of demonstrating how this equipment came into being.' He continues:

> When an ethnographer reports that in a given society divorces are frequent; that the accounts of religious dogmas and rituals are inaccurate and inconsistent; that when people are ill they just lie down and die; that they have little interest in permanent structures; that they have no conscience or tendency to depressive reactions — all these may be unrelated events, or may be deeply interconnected. It makes a great deal of difference, as far as the workings of the society are concerned, which view we adopt. . .
>
> The contribution that psychodynamics makes is to demonstrate that these traits are related, and, by the very fact that they are so, a special direction is given to the adaptation of the society as a whole, and a special imprint is left on the individual exposed to this particular social process.

The key operational construct of Kardiner's technic is *basic personality structure,* and this, as the author is quick to note, is not a new idea, being as old as the Greek notion of national character. But its integration with a comprehensive psychodynamic method for analyzing the social milieu is new.

The common experiences of those who are reared alike results in a constellation of values and attitudes which is shared by all members of a given culture, and which forms the matrix of the individual's personal characteristics. This core of organismal evaluations (which reminds us of what Korzybski at his seminars calls 'basic assumptions') represents the basic personality.

Consider the Alorese of the Dutch East Indies, of whom Kardiner was speaking above. Their economic mainstay is rice growing. This work is done entirely by women, who must leave their infants to the haphazard care of the men and young children. Very early the child experiences many painful physiologic tensions which are not discharged. He has no close affectional ties with a parent but rather feels adults as hostile, frustrating forces.

The most conspicuous result is a personality devoid of executive capacity, *i.e.,* ability to organize, to handle aggression, to master the outer world.

> The basic personality in Alor is anxious, suspicious, mistrustful, lacking in confidence, with no interest in the outer world. There is no capacity to idealize a parental image or deity. The personality is devoid of enterprise, is filled with repressed hatred and free floating aggression over

which constant vigilance must be exercised. The personality is devoid of high aspirations and has no basis for the internalization of discipline.

Kardiner concludes: 'Individuals so constituted must spend most of their energy protecting themselves against each others' hostility. Cooperation must be at a low level and a tenuous social cohesion can be achieved only by dominance-submission attitudes, not by affection and mutual trust.' In religion and folklore emphasis is on parental hatreds and revenge. The predatory trend is repressed, or expressed in finance and accumulation of wealth, which is the occupation of the men.

Connections between conditions of childhood learning and the resulting personality are not difficult to see amongst the Alorese, at least when they are shown to us.[1] But exact institutional and projective schemes cannot yet be predicted from basic personality structure. What can be traced is the derivation of value-attitude systems, using psychoanalytic technics, and this has been done in ten cultures, three of which are fully described in this book. One of the three is a midwest rural community.

The results of psychodynamic analysis have been checked in two ways. Life histories have been studied to see whether the subject has the basic personality ascribed to his culture. When there were deviations, these were traced to significant differences in the rearing of the individual. One of the Alorese, for example, was found to have a Western style conscience. It was learned that his father had supplied him much care and affection, and had had a close relationship with him as a child.

Rorschach studies provided the second check. These were interpreted by an outsider without knowledge of the source of the records. The Rorschach test is a series of ten 'meaningless' inkblots. The subject is asked to tell what he sees in the blots, and his answers reveal his personality structure but not its origin.

Since Kardiner is pioneering with his technic, it has the roughness of most new efforts. Especially in the last chapter, where he describes the history of Western value-attitude systems, he prematurely extends the scope of his method.

THE MERIT of this work is its method, rather than the specific results of its use. What counts, as Kardiner says, is whether the technic is verifiable, teachable, subject to change in the face of new evidence, and applicable to enough of the whole social process.

About these criteria we shall have to wait and see, but I feel sure that Kardiner has fashioned a sensitive and penetrating instrument of culture-person-

[1] In this connection it is interesting to note the following statement of Kardiner, and to recall Korzybski's reiterated remark about the great difficulty of changing from one key evaluational system to another. Kardiner writes: 'I feel somewhat ashamed to confess that some of the main points in Alorese personality did not become clear to me until four years after I originally got to know the material.'

ality investigation, a method which establishes comparative psychodynamics. And with cross-cultural comparison studies we may be able to identify the invariant factors in interpersonal relations.

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*Art and Dogmatism**

ART AS THE EVOLUTION OF VISUAL KNOWLEDGE, by Charles Biederman. Red Wing, Minnesota: Charles Biederman, 1948. 710 pp. 315 half-tone illustrations. $15.

BIEDERMAN has chosen a vital and interesting angle from which to survey the past of art. The question he raises is how and how well visual art has served to inform us about the environment. The answer involves the basic facts about the history of representation, and its functions in the contexts of magic, religion, and science. Any chapter of this story—prehistoric art; the growth of space-rendering and perspective; new movements such as Realism and Impressionism; the art philosophies of the twentieth century; the relation of art to photography—is no small task in itself if acceptable standards are adhered to.

Properly carried out, a history of art 'as the evolution of visual knowledge' would have been most useful. Unfortunately, Biederman is not a trained art historian; nor does he compensate for his lack of training by special caution or by special insight. The authorities it draws upon (and it draws upon a bibliography of 374 items) are, for any *one* period, too few and often outdated. The festoons of footnotes, references, and prefatory quotations from learned sources which wedding-cake the book will mislead no one. Whatever the virtues of *Art as the Evolution of Visual Knowledge*, accuracy is not among them. To look for the contribution in the midst of this chaos is like seeking the benefit that war brings to humanity.

* [EDITOR'S NOTE: An extremely enthusiastic and favorable review of Biederman's *Art as the Evolution of Visual Knowledge* was submitted to the Editors of *ETC.* by John W. and Joan Waddell Barnes of Chicago. Because it was known that there were wide differences of opinion about this book, the Editors invited a second review from Martin James of New York City. It was planned to publish the two reviews together. The Barnes's review was extremely long: it would have run about 24 printed pages. Because of space considerations, a shortened version of the review (which would still have left it the longest book review *ETC.* has ever published) was submitted to Mr. Barnes for his approval, but he declined to consent to its publication in that form. Mr. James' review is therefore presented here alone. Those interested in seeing the Barnes's review may procure a copy from Institute of General Semantics, Lakeville, Conn.]

Yet the book makes one important point. In the course of his excursion through history from the caves of Altamira to the present, Biederman shows that the visual arts are not merely a mirror reflecting man's cultural outlook, but play a strong positive or negative role in shaping behavior. He demonstrates for art what Russell, Korzybski, and others have shown for language and symbol systems. The man-made rules of art and of language impose their structure upon mankind and limit our horizons. Art, like language, is a tool—an invention constantly altered in the course of time and infiltrated with new techniques. This dynamic view of art has been stated again and again by Mondrian, Moholy-Nagy, Giedion, Dorner, Kepes, Holtzman, the de Stijl movement, and others. If one can abstract it from his elaborately tortured style, it is to some extent strengthened in Biederman's formulation.

HOW ARE art forms linked to our cultural and biological behavior? This question Biederman certainly raises in the reader's mind, even if his phrasing is obscure and his answers open to suspicion. In the course of his book Biederman:

1. Shows how man has a changing view of 'reality' and has a capacity for discovering 'reality' in newer and better ways. He shows the important role of visual art in forming such views, and asks that history be written from the point of view of man's adaptation to 'reality.'
2. Distinguishes (or dichotomizes) 'cortico' and 'thalamic' behavior. He characterizes primitive cultures as 'thalamic' and scientific cultures as 'cortico.'
3. States as a theory of art that the function of visual knowledge is *strictly* comparable to that of scientific statements. Whatever statement does not denote 'reality' is 'fantasy.'
4. Bases his historical and artistic values on 'useful survival' through approaching 'reality' and avoiding 'fantasy.' Distinguishes (or dichotomizes) the functions of painting and sculpture on the basis of a distinction between the tactile and visual.
5. Characterizes the function of visual art of the major historical periods from the point of view of success (or lack of success) in the reporting of 'reality.'
6. Exhibits, as the only valid art of our time, his own work, that of some of his students, and a number of scientific photographs (crystallograms, X-ray diffraction patterns, etc.). Art today, he says, should express *only* non-macroscopic structures. The macroscopic visual world is best reproduced by the camera, so that the non-camera artist has no business dealing with it. Today's art-forms must also be capable of being industrially mass-produced, utilizing the new materials of modern industry—plastics, metals, glass, etc. 'Primitive' hand-tools must be discarded. *All* forms of painting are obsolete.

To be sure, anyone can evaluate art by any criteria he cares to choose. But Biederman's are so restrictive that, even if they made sense (they often make partial sense), they would not help much to understand the broad stream of art and all its multiplicity of function. Art for him has only one legitimate function, 'reality'-reporting. And for our scientific culture, there is only one 'reality,' the 'Structural Process level.'

For reasons such as these, Biederman dismisses as purely superstitious and exploitative in aim the entire art of the Middle Ages, without regard to medieval achievements in so many visual fields. The cathedrals have been overestimated, he discovers, and medieval art was 'merely an appropriate visual device for fostering religious doctrines' (p. 163). Similarly, we must toss overboard the work of the Dadaists and Surrealists, whose motives and methods Biederman not only fails to make clear, but misunderstands and misrepresents. Many passages concerning these movements call to mind a nasty and confused little book that created a splash some time ago, *Mona Lisa's Moustache;* identical examples are held up to ridicule by both Robjohn-Giddings and Biederman.

INDEED, unsympathetic to those movements which have explored symbolism and representation, Biederman does no better in describing movements with which he seeks to connect himself. As is well known, the concern of de Stijl, of Mondrian, of Van Doesburg, and of the abstract movement is with the visual environment. Not concerned with 'statement' in the specialized Biederman sense, they explore the potentialities of architecture, planning, and design, and try to create in art and everyday life the experience of coherent visual relationships. For all these revolutionary considerations, Biederman finds little room in his 700-page tome. The imaginative genius Paul Klee, the artist and educator Moholy-Nagy (whose 'space-molulators' certainly deserve an important place in the discussion of 'constructions'), and the Bauhaus movement which raised industrial design to the level of art do not even appear in the index.

Especially patronizing is Biederman's alternate praise and condemnation of Mondrian, whom Biederman seems anxious to supersede, although he leans most heavily on his writings. It should be emphatically stated that Biederman misunderstands Mondrian's work and statements. For example, Biederman appears to have no idea what Mondrian meant by *plastic* values (the visuostructural factors that the visual arts have in common). This misunderstanding of the inferences of visual experience may explain why Biederman is blind to the work of Matisse, why he categorizes as artistic 'misdirection' so many important visual expressions such as the later Picasso, Braque, and medieval art in general. Perhaps, too, it explains the rather decorative or arbitrary quality of Biederman's own work so far as one can judge from the reproductions.

Art, according to Biederman, should produce structures 'isomorphous' or

similar in structure to 'reality.' What 'reality' does Biederman mean when he refers to 'Structural Process levels'? This does not become clear. One is led to infer at times that it has to do with ultramicroscopic structures as exhibited through diagrams of molecular structures, crystallograms, etc., shown next to his own work. (Need one point out that records of wave phenomena, microscopic X-ray photographs, etc., are diagrammatic aids? The structures they refer to are inferential and not of a visual order.) In this view, Biederman seems to be skirting the denotative art which he claims to abhor. On the other hand, we are told that modern artists, freed from the task of reproducing the appearances of nature (the 'macro-level' as he calls it), are free to invent their own content. But this 'invention' is based upon knowledge of the newly discovered 'process level of reality'; from the 'building method of nature' the modern artist derives a 'method' of building his own 'art-content.' One stares at these confused verbalizations, then stares at the photographs of Biederman's own constructions (presumably 'invented' in this way). The more one stares, the more one's wonder grows.

IN ADDITION to vast areas of illogic and ambiguity of terminology, Biederman holds an extraordinarily two-valued view of history. 'Cortico' and 'thalamic,' 'progressive' and 'regressive,' 'primitive' and 'scientific'—these opposites are the heroes and villains of his account. Whoever is not preoccupied with 'reality' (as defined by Biederman) indulges in 'fantasy.' The Impressionists went in for 'fantasy'; so did the Fauvists. Dadaism is 'fantasy'; Cubism succumbed to 'fantasy'; Surrealism is pure 'fantasy' and 'escape art.' Therefore, there are, in modern art, *only* two possible directions: Constructionist (which deals with 'Structural Process reality') and Surrealism (which escapes into 'fantasy').

Such sharp dichotomies are indicative of the sociological and historical depth of Biederman's explanations. History is a battleground where good and evil clash. Why some period and periods are on the 'right' side and others on the 'wrong' appears about as clearly as in a B movie. The great artists and epochs file past like children who have been good or naughty by caprice, and are to be spanked or rewarded accordingly.

Nor can Biederman's dichotomy (extremely elementalistic—see, for example, Earl C. Kelley's *Education for What Is Real*) between visual and tactile, painting and sculpture, easily be allowed. 'The art history of the sculptural medium is the record of development of tactile consciousness, whereas the linear medium is the record of the development of imagery consciousness'; 'The painter records light; he records the images that humans see and not the form from which the images spring.' These premises, drawn from late nineteenth century art historians and critics, lead to the conclusion (supported by Spengler) that 'after Donatello the sculptor is an artist piddling with a useless form of art. All he can do is repeat.' Another example is the idle and nonsensical specula-

tion 'The problem of Cézanne and the Cubists could have been realized in a three-dimensional medium' (p. 321).

IN HIS, *Signs, Language, and Behavior,* Charles Morris reveals the great uncertainty at the present stage of knowledge in describing the precise types of iconicity and expressiveness involved in art, ritual, paintings, photographs, dreams. The temperate and cautious attitude of Morris, his empiricism and tolerance, are in sharp contrast to the dogmatism and quarrelsome temper of Biederman's book, which is deeply aristotelian in spirit and which, in spite of vigorous protestations of non-finality, systematically violates almost every principle of general semantics.

In conclusion, one may ask: (1) Does *Art as the Evolution of Visual Knowledge* form an effective application of general semantics as applied to the field of visual art and visual experience? (2) Does it adequately account for human behavior with reference to nonverbal visual means? (3) Does it fulfill its purpose by meaningfully placing art expressions in their historic and social contexts? (4) Does it form, as Douglas M. Kelley, M.D., Professor of Psychiatry, Bowman Gray School of Medicine has said, 'the most extensional and comprehensive history of art available . . . of more practical value than . . . any other publication of the past decade . . . a milestone marking a new era of thought in art'?

We must regretfully answer all these questions with a 'no.' Indeed, we must go further. We must sharply disavow the kind of use that Biederman makes of general semantics, namely, its use as a polemical weapon with which to castigate everything and everybody he is not in perfect sympathy with. If people get the impression that the study of general semantics leads to the kind of evaluations and the kind of scholarship that are exhibited throughout this volume, its publication cannot but be regarded as a disastrous setback to the science of general semantics.

MARTIN JAMES

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They Aren't All Arapesh

THE COMMUNICATION OF IDEAS, edited by Lyman Bryson. (Religion and Civilization Series, Institute for Religious and Social Studies.) New York: Harper, 1948.

AFTER reading through the remarkably varied papers which make up *The Communication of Ideas,* I find myself chiefly grateful to the anthropologist, Margaret Mead, for an introduction to a delightful and all-too-little-known

people: the Arapesh of New Guinea. The Arapesh, it appears, look upon communication chiefly as a means of titillating the emotions. When any noteworthy event occurs in the Arapesh country, Miss Mead recounts, there is enormous excitement among the people; the hills resound with the booming of signal drums and vigorous shouting. Although the Arapesh sometimes pretend otherwise (after the fact), all this activity conveys no intelligence; it is simply a signal to become excited. Eventually, messengers may be sent out to learn what has happened. But in the meantime, the Arapesh begin to guess

> . . . what all the excitement can be about, speculating rapidly as to who may be dead, or travelling, whose wife may have been abducted, or whose wife sorcerized. A dozen explanations may be introduced and, according as they appear plausible, the movements of all the listeners will be altered or not. If no one can think of a plausible reason for the commotion, most of the listeners are likely to set off in the direction of the sounds.

Miss Mead is, of course, a distinguished anthropologist; I do not think she has invented the Arapesh simply for the sake of the moral which might be drawn from their behavior. She does indeed remark that the behavior of the Arapesh is not entirely unlike the behavior of some American radio listeners (or, one might add, of sports fans, members of some religious congregations, and audiences at most political meetings). Also of a good many 'scholars' and 'experts' in the social sciences. Indeed, I have been wondering whether the antics of these primitive orators and their audiences might not serve as a sign and a warning to writers about problems of communications in these times.

I do not mean to compare the authors whose papers make up *The Communication of Ideas* to the exuberant Arapesh; for these writers are, as a group, neither naive nor given to vulgar errors in evaluation or statement. Yet I wish nevertheless that the story of the Arapesh could be written eloquently and briefly, and pasted into the hat of every actual or prospective student of communication, at least while the current interest in the subject continues high.

SURELY one of the more remarkable phenomena of the last twenty or thirty years is the steadily increasing interest in man as a symbol-user, the growing conviction that our individual and mass insanities can be treated only when we understand the processes of communication between one human being and another. Students of general semantics can scarcely quarrel with this conviction, though they may object vigorously to some of the explanation and advice that result from it. *The Communication of Ideas* is chiefly valuable to the student of general semantics because it samples the results of the conviction mentioned above. The book contains statements upon communications by students of the arts, sociologists, a professor of Greek, a general semanticist, a commentator on radio, a business man, etc. These statements, to consider them individually, are probably at their best when they attempt to describe and analyze various acts of

communication, setting them within their proper contexts of events. They are less useful when they deal heavily in inferences which may or may not be grounded in fact. They are least useful when, as is occasionally the case, they deal chiefly with the author's private reactions. In short, writing about communications which is done in the Arapesh manner may be entertaining; but it is not very valuable otherwise.

Considered on this basis, Margaret Mead's own papers seem to me extremely good. Reading her first article, 'Some Cultural Approaches to Communications Problems,' one might decide that she, like many another anthropologist, is more at home in the cultures of the Southwest Pacific than in the culture of the United States; a reading of her second paper, 'A Case History in Cross-National Communications,' will surely dispel the first impression. The 'Case History' records an attempt, by social scientists, to influence the semantic reactions of large masses of individuals. During the late war, when American troops were sent to Great Britain, the authorities quickly learned that to speak of the 'two great English-speaking nations' was disastrously inaccurate. While the Americans and the British had certain words in common, pronounced more-or-less alike, the reactions to them differed sharply. The result was a lack of understanding between the allies, and a considerable amount of friction. Miss Mead's business was to investigate those reactions which seemed most productive of misunderstanding and friction, and to find ways of adjusting language habits and other kinds of behavior to minimize the difficulties. The account is extraordinarily interesting; and the activities described are so much within the realm of general semantics that no competent student of the subject should be ignorant of them.

HAVING cited two papers in this volume which seem to me very good, I cannot forbear discussing one which appears to be somewhat less than satisfactory: Lennox Grey's 'Communication and the Arts.' Mr. Grey disposes of the 'fine arts,' in the persons of Gertrude Stein, T. S. Eliot, and James Joyce, with the explanation that these writers — and, by implication, such painters as Picasso, Klee, Miró, etc. — have insisted on 'deliberate privacy' in their work because 'they were afraid or otherwise unwilling to meet the gross mass audience in its largest dimensions.' That is to say, contemporary artists do what they do because they don't want too many people to understand them.

Over the battered remains of Picasso, Klee, Eliot, *et al.*, Mr. Grey advances to set up an esthetic theory which seems to be based on Size and Number. 'But who dares then to argue,' he writes, 'that the evoking of a response of large audiences to certain common symbols and the values they stand for is a less significant function of art than the capturing of new visions, aspects and values of human experience?' A page or so later, Mr. Grey may be found arguing that a work of art which combines several media (a television play might be an example) is more admirable than a creation which demands mastery of only

a single medium.

I have no wish to dispute Mr. Grey's esthetics, but rather to point out that his statements are more likely to promote excitement than enlightenment about the arts he discusses. A study which really dealt with the arts, either 'popular' or 'fine,' which attempted to describe and analyze the reactions of artists and audiences to the esthetic situation, would be most valuable to students of general semantics, and to students of communications generally. Mr. Grey has provided us instead with a statement about himself in relation to the arts, a statement which might best be used to promote a post-midnight 'esthetic' discussion over the coffee cups.

IT IS scarcely practical to do more than mention some of the other papers which make up this volume. There is, for instance, Whitney J. Oates' 'Classic Theories of Communication,' which deals in a scholarly and yet human fashion with the rhetorical theories of Plato; except for the fact that the final page of the article tends to suggest that Plato was a kind of Athenian Korzybski, the treatment seems excellent. Wendell Johnson's excellent 'Speech and Personality,' the only contribution to the volume which deals directly with general semantics, will already be familiar to readers of *ETC.*, since it was reprinted from *The Communication of Ideas* in the Winter, 1949, issue. There are two papers by Harold D. Lasswell; the first attempts to describe, from a sociological point of view, the structure and function of communication in a modern society, the second ('Attention Structure and Social Structure') raises and discusses the interesting question, whether members of a given social group make like abstractions because of their group membership. In addition, the reader will find a wide variety of other aspects of 'the communication of ideas' discussed. Charles Siepmann, author of *Radio's Second Chance* and one of the most vocal critics of presentday broadcasting, levels a vigorous attack against broadcasters and teachers for their failure to use radio as an effective medium of communication. James Mitchell Clarke, head of the 'Readability Laboratory,' contributes an article called 'Science and Writing,' in which he attempts to set forth the available 'scientific knowledge applicable to writing'—chiefly the findings of Rudolph Flesch and Irving Lorge on factors affecting ease of comprehension of written material. Some amazingly naive comments on 'semantics' are included; the reviewer found the implication (p. 161) that Wendell Johnson, as an outstanding 'semanticist,' spends much of his time 'counting the meanings of words' particularly entertaining.

To conclude, let me say that *The Communication of Ideas* is a valuable book, and that the editor and publishers are to be congratulated on its production. It is most certainly a book which should be examined by students of general semantics. Aside from its obvious value, *The Communication of Ideas* suggests the major problems involved as well as the most heartening progress which has

been made in communications studies. Despite the care with which investigators try to observe, and the rigor with which they attempt to describe and analyze, much writing in this area — particularly writing on the 'mass media'— is too often excited argument rather than accurate observation. It is clear, too, that many 'experts,' in many 'fields,' using all too frequently mutually incomprehensible languages, are dealing with the same sort of phenomena. We need sorely to coordinate these multiple efforts. The Institute for Religious and Social Studies, in presenting the course from which these papers developed, and in giving them permanent form, has done something to achieve this coordination. Stuart Chase, in *The Proper Study of Mankind,* has suggested that general semanticists can accomplish much more in the same direction. Certainly one hopes Mr. Chase is right.

MARTIN MALONEY

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The Science of Administration

ADMINISTRATIVE BEHAVIOR: A STUDY OF DECISION-MAKING PROCESSES IN ADMINISTRATIVE ORGANIZATIONS, by Herbert A. Simon. New York: MacMillan, 1947. 259 pp. $4.

ADMINISTRATION is one of the dozen most important subjects of our time. This is one of the two most important books on the topic, the other being Barnard's *Functions of the Executive.* As such, it should be familiar to all those likely to be concerned with administrative problems. Administration is important for the same reason basically that language is important. It is a device by which activities may be planned and coordinated. Professor Simon indicates that he is concerned with the 'construction of tools useful for research.' He adds, 'It is my conception that we do not yet have in this field adequate linguistic and conceptual tools.' In other words, he is trying to develop a better way of talking about the relatively intangible processes of interpersonal coordination involved in administration.

He starts off with a description of the processes of decision, indicating the relationship between supervisory and operative decisions. He proceeds to discuss one of the major aspects of administrative decision, the way in which it 'takes from the individual some of his decisional autonomy and substitutes for it an organization decision-making process.' Here at the very start many readers may find difficulty in following him, for he challenges by implication the sacred notions of the self-sufficient individual which bulk so large in our folklore but which obviously are insufficient to explain how we actually behave.

His second chapter proceeds to demonstrate the uselessness of administrative

theory at the present time because of the contradictory nature of generally accepted administrative principles. For example, one is supposed to specialize and one is supposed to have unity of command. Had Professor Simon explicitly developed, as some readers of *ETC.* will in connection with his chapter, his formulations with respect to the relevance of generalizations in terms of general semantics, he might have come to his point a little more quickly. The fourth and fifth chapters are addressed to the problem of 'rationality' in administrative decision. The fourth chapter contains a series of propositions about how to judge whether a decision is in fact rational which would apply to any type of decision and is therefore of general interest. Later chapters discuss and define various terms of importance to all administrators, such as 'influence' and 'authority' and 'efficiency.'

There are, despite the reviewer's hearty commendation of the book, many weaknesses in it. But these weaknesses indicate its greatest value. It is so organized and prepared that as one grasps its major points, one is stimulated to think of exceptions, qualifications, amplifications. 'Truth arises more readily out of error than out of confusion'; there is some error here but no confusion, whereas most writing on administration is filled with confusion. Among the errors one may note the almost complete omission of relevant sociological analyses. The utilization of the sociology of the professions would have greatly enriched and revised the treatment of organizational identification. The description of the integration of behavior follows far more closely than is necessary the highly schematic models of classical economics rather than the somewhat more pertinent analyses of contemporary social anthropologists, with the result that we have statements which apply only to the sphere of 'perfect administration.' It would have taken no more intellectual effort for the reader and would have been just as concise, had Professor Simon, imitating the economists of imperfect competition, formulated propositions about administrative psychology which apply to the imperfect situations which most of us customarily face. The doctoral dissertation, from which the book was derived, shows clearly that this omission is a consequence of Professor Simon's passion for mathematical models; such notions as 'culture' in the sociological sense do not at present lend themselves well to the elegance which those who admire mathematical beauty seek.

On practically every page, the reflective administrator or administrative analyst will find propositions which will stimulate him both to think about theoretical improvements and to revise his ideas about his own administrative experiences. This presumably should demonstrate that Professor Simon has admirably achieved his purpose — that he has constructed tools which people will want to and be able to use.

LEWIS A. DEXTER

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✯ NEWS AND MISCELLANY ✯

International Society for General Semantics Elections

Officers elected to serve during 1949-1950:

President: S. I. HAYAKAWA, Chicago, Illinois.
Vice-President: G. LESLIE FIELD, Detroit, Michigan.
Secretary-Treasurer: KARL G. HAUCH, Chicago, Illinois.

Directors elected to serve during 1949-1952:

W. BENTON HARRISON, JR., New York, New York.
RUSSELL MEYERS, Iowa City, Iowa.

Eddington Prize

The International Institute of Theoretical Science, Brussels, Belgium, offers a prize of 50,000 Belgian francs for the best exposition and critique of Eddington's conception of the philosophy of physical science.

Members of the jury: I. DOCKS, director of the Institute; L. DE BROGLIE, perp. secretary of the Academy of Science of Paris; TH. DE DONDER, Professor at the University of Brussels; F. GONSETH, Professor at the Polytechnicum of Zurich; E. A. MILNE, Professor at Oxford University.

Manuscripts should be sent in five copies to the secretariat of the *Institut International de Science Theorique,* 221 avenue de Tervueren, Brussels, Belgium not later than December 31, 1950. The manuscript should be signed by a code name. A separate sealed envelope should contain this code name together with the name and address of the contestant.

Third Congress on General Semantics

Over seventy papers were presented at the sessions of the Third Congress on General Semantics held at the University of Denver, Denver, Colorado, July 22-24. Stressing the General Theory of Time-Binding and the derivative criteria for sanity, the Congress included five general sections, Psycho-somatic Issues; Theoretical and Methodological Issues; Communications, the Arts and Literature; Socio-economic Issues; Education.

International Society for Significs

The Fifth Summer Conference of the International Society for Significs will be held in The Hague, Netherlands August 20-25, 1949. The International Society for General Semantics will be represented at the conference by DR. ANATOL RAPOPORT of the University of Chicago who will present a paper on the relation between mathematical biology and general semantics.

INTERNATIONAL SOCIETY FOR GENERAL SEMANTICS

List of Members

June 15, 1949

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Yakutat: Theodore Rundall.

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Index to Volume VI

ETC.: A REVIEW OF GENERAL SEMANTICS

(Note: Authors of articles and reviews are listed in Capital Letters)

'A. B. Johnson and a Reader,' W. Benton Harrison, Jr. (letter), 209.
Ames, Alfred C., 'Conscience Again' (letter), 72.
'Ancient Wisdom,' E. C. Troy (letter), 72.
'Anti-Semitism: A Study in Mistaken Map-Territory Relationships,' S. I. Hayakawa, 197.
'Better than Statistics,' Adrian Young (letter), 71.
Biederman, Charles, *Art as the Evaluation of Visual Knowledge,* rev. by Martin James, 267.
'Biophysics, Linguistics, and the Unity of Science,' Charles F. Hockett, 218.
BORLAND, LOREN R., 'National Health Insurance Bogey,' 213.
Bruff, J. Russell, 'How about Evaluatics?' (letter), 207.
Bryson, Lyman, editor, 'The Communication of Ideas,' rev. by Martin Maloney, 271.
'But Isn't He a Communist? Variable Elements in the Definition,' Alfred D. Sheffield, 81.
BYKHOVSKY, B., 'The Morass of Modern Bourgeois Philosophy,' 1.
Chase, Marian Tyler, 'Semantics and Irenics,' (letter), 210.
'Childhood Memory in the Painting of Joan Miró,' Evelyn T. Riesman, 160.
CHISHOLM, FRANCIS P., review of *Language and Society: The Linguistic Revolution and Social Change* by M. M. Lewis, 120; review of *Toward Adult Living* prepared by the Guidance Staff of National Forum, 127.
'Conscience Again,' Alfred C. Ames (letter), 72.
Crankshaw, Edward, *Russia and the Russians,* rev. by Joseph H. Lederer, 124.
DALY, MASON G., 'Richard Baxter: Directions Against Intolerance,' 245.
DEXTER, LEWIS A., review of *The Science of Administration* by Herbert A. Simon, 275.
'Eighteenth Century Semanticist, An,' Henry J. Webb, 55.
'Evaluative Systems at Work,' 79; 211.
Flesch, Rudolf, *The Art of Plain Talk,* rev. by S. I. Hayakawa, 67.
'Freedom from Speech: An Address to Speech Teachers,' Irving J. Lee, 16.
'General Semantics: A Tool for the Counselor,' Henry Clay Lindgren, 238.
GREENBERG, LEONARD, 'The "Is" of Identity in Definitions,' 109.
GRINKER, ROY R., 'Semantics in Psychiatry,' 39.
Guidance Staff of National Forum, *'Toward Adult Living,'* rev. by Francis P. Chisholm, 127.
Harrison, W. Benton, Jr., 'A B. Johnson and a Reader' (letter), 209.
HAYAKAWA, S. I., 'Anti-Semitism: A Study in Mistaken Map-Territory Relationships,' 197; 'Why Was Dewey Defeated?' 112; review of *The Art of Plain Talk* by Rudolf Flesch, 67.
HOCKETT, CHARLES F., 'Biophysics, Linguistics, and the Unity of Science,' 218.
'Horace Bushnell Reconsidered,' Sherman Paul, 255.
'How About "Evaluatics's"?' J. Russell Bruff (letter), 207.
International Society for General Semantics: List of Members, 278.
'"Is" of Identity in Definitions, The,' Leonard Greenberg, 109.
Ivins, William M., Jr., *Art and Geometry, A Study of Space Intuitions,* rev. by Julia Siebel, 119.
JAMES, MARTIN, review of *Art as the Evaluation of Visual Knowledge* by Charles Biederman, 267.
JOHNSON, WENDELL, 'Speech and Personality,' 84.

Kardiner, Abram, *The Psychological Frontiers of Society* rev. by Louis Paul, 265.
Kelley, Earl C., *Education for What Is Real,* rev. by Julia Siebel, 262.
Kessler, John J., 'Some Semantic Epigrams' (letter), 70.
LEDERER, JOSEPH H., review of *Russia and the Russians* by Edward Crankshaw, 124.
LEE, IRVING J., 'Freedom from Speech: An Address to Speech Teachers,' 16; 'Report of the Retiring President, International Society for General Semantics: 1947-1948' (editorial), 58.
Lewis, M. M., *Language in Society: The Linguistic Revolution and Social Change,* rev. by Francis P. Chisholm, 120.
'L'Idee Fixe: *A Dialogue at the Seaside,*' Paul Valéry, 21.
LINDGREN, HENRY CLAY, 'General Semantics: A Tool for the Counselor,' 238.
'Logical Impossibility?' Edward MacNeal, 259.
LUNDBERG, GEORGE A., 'Semantics in International Relations,' 233.
MACNEAL, EDWARD, 'Logical Impossibility?' 259.
MALONEY, MARTIN, review of *The Communication of Ideas,* edited by Lyman Bryson, 271.
'Mathematical Biophysics, Cybernetics, and General Semantics,' Anatol Rapoport and Alfonso Shimbel, 145.
MEADER, C. L., review of *Psychobiology of Language: An Introduction to Dynamic Philology* by George Kingsley Zipf, 60.
'Medical Psychotherapy and General Semantics,' Louis Paul, 251.
MEYERS, RUSSELL, 'The Nervous System and General Semantics: II. "Reality" and "Unreality",' 27; 'The Nervous System and General Semantics: III. Perceptual Response and the Neurology of Abstraction,' 169; 'Response to Dr. Grinker's Paper,' 44.
Mondrian, Piet, *Plastic Art and Pure Plastic Art,* rev. by Surindar S. Suri, 122.
'Morass of Modern Bourgeois Philosophy, The,' B. Bykhovsky, 1.
'National Health Insurance Bogey, The,' Loren R. Borland, 213.
'Nervous System and General Semantics, The: II. "Reality" and "Unreality",' Russell Meyers, 27; III. 'Perceptual Response and the Neurology of Abstraction,' 169.
News and Miscellany, 73; 204.
PAUL, LOUIS, 'Medical Psychotherapy and General Semantics,' 251; review of *The Psychological Frontiers of Society* by Abram Kardiner, 265.
PAUL, SHERMAN, 'Horace Bushnell Reconsidered,' 255; 'Whitehead, Langer, and the Unity of "Fact" and "Value",' 103.
Pottharst, Karl E., 'Reservations and Objections to "Logos, Telos, and Psyche"' (letter), 137.
RAPOPORT, ANATOL, translation of 'The Morass of Modern Bourgeois Philosophy' by B. Bykhovsky, 1.
RAPOPORT, ANATOL and SHIMBEL, ALFONSO, 'Mathematical Biophysics, Cybernetics, and General Semantics,' 145.
'Reply to Mr. Pottharst,' Henry Winthrop (letter), 141.
'Report of the Retiring President, International Society for General Semantics: 1947-1948,' Irving J. Lee (editorial), 58.
'Reservations and Objections to "Logos, Telos, and Psyche",' Karl E. Pottharst (letter), 137.
'Response to Dr. Grinker's Paper, A,' Russell Meyers, 44.
'Rhetoric and Grammar of the Film,' Adrian Young (film review), 129.
'Richard Baxter: Directions Against Intolerance,' Mason G. Daly, 245.
RIESMAN, EVELYN T., 'Childhood Memory in the Painting of Joan Miró,' 160.

'Semantics and Irenics,' Marian Tyler Chase (letter), 210.
'Semantics in International Relations,' George A. Lundberg, 233.
'Semantics in Psychiatry,' Roy R. Grinker, 39.
SHEFFIELD, ALFRED D., 'But Isn't He a Communist: Variable Elements in the Definition,' 81.
SHIMBEL, ALFONSO and RAPOPORT, ANATOL, 'Mathematical Biophysics, Cybernetics, and General Semantics,' 145.
SIEBEL, JULIA, review of *Art and Geometry, A Study of Space Intuitions* by William M. Ivins, Jr., 119; review of *Education for What Is Real* by Earl C. Kelley, 262.
Simon, Herbert A., *The Science of Administration*, rev. by Lewis A. Dexter, 275.
'Some Semantic Epigrams,' John J. Kessler (letter), 70.
'Speech and Personality,' Wendell Johnson, 84.
SURI, SURINDAR S., review of *Plastic Art and Pure Plastic Art* by Piet Mondrian, 122.
'Through with General Semantics,' N. R. Thurston (letter), 209.
Thurston, N. R., 'Through with General Semantics' (letter), 209.
Trory, E. C., 'Ancient Wisdom' (letter), 72.
Valéry, Paul, 'L'Idee Fixe: A Dialogue at the Seaside.' 21.
WEBB, HENRY J., 'Eighteenth Century Semanticist, An,' 55.
'Whitehead, Langer, and the Uniting of "Fact" and "Value",' Sherman Paul, 103.
'Why Was Dewey Defeated?' S. I. Hayakawa, 112.
Winthrop, Henry, 'Reply to Mr. Pottharst' (letter), 141.
WOLFF, ELEANOR, translation of *L'Idee Fixe* by Paul Valéry, 21.
YOUNG, ADRIAN, 'Rhetoric and Grammar of the Film' (film review), 129; 'Better than Statistics' (letter), 71.
Zipf, George Kingsley, *Psycho-Biology of Language; An Introduction to Dynamic Philology*, rev. by C. L. Meader, 60.

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